

FIG. 1

FIG. 2

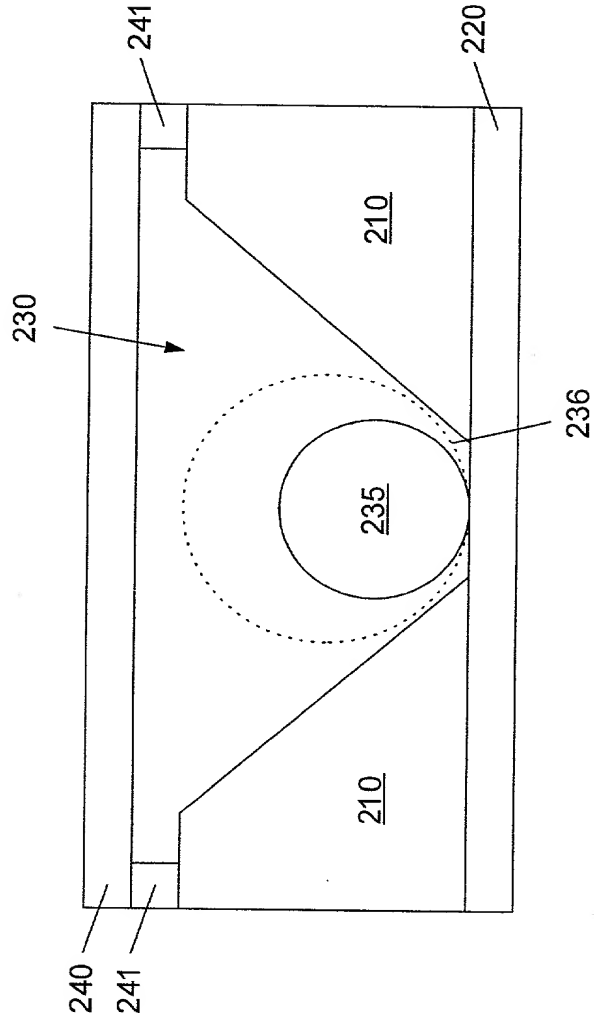
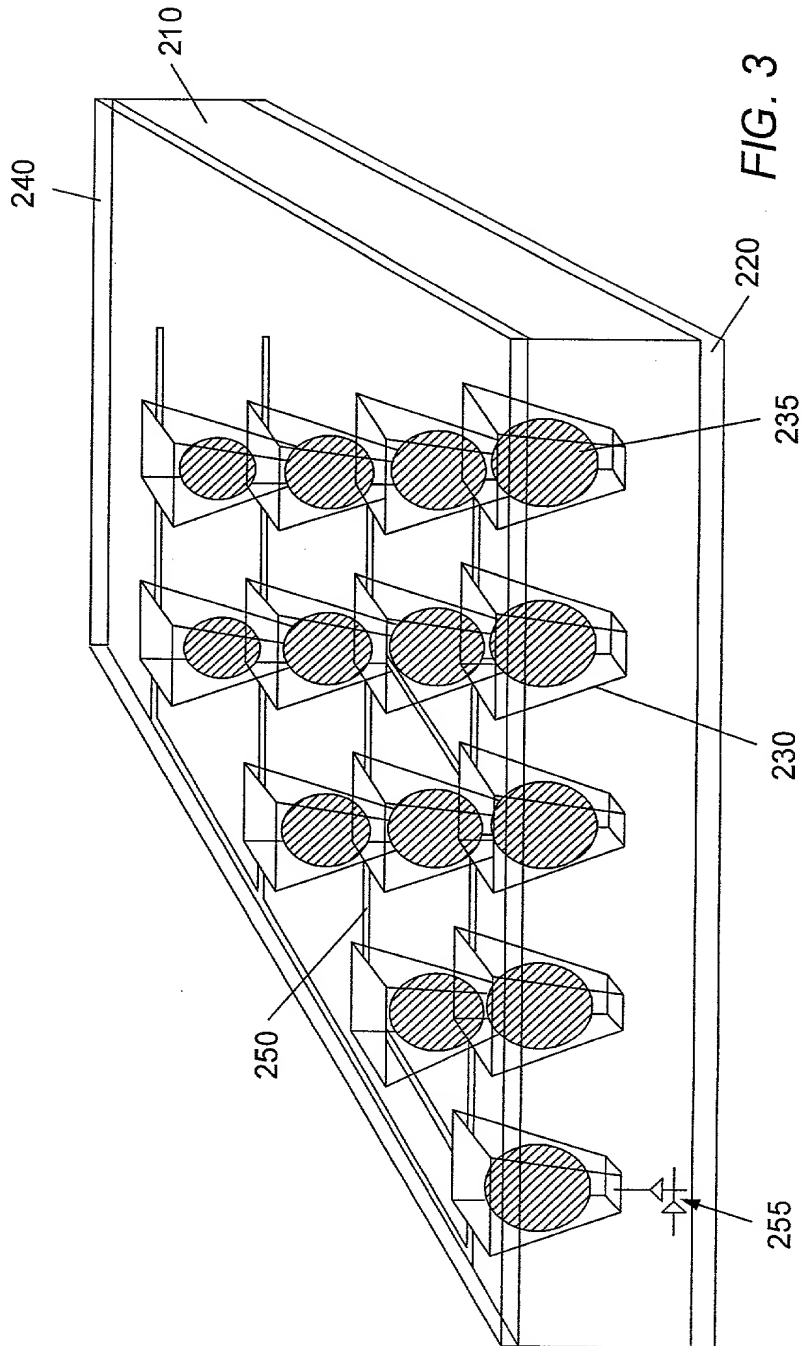


FIG. 2

FIG. 3



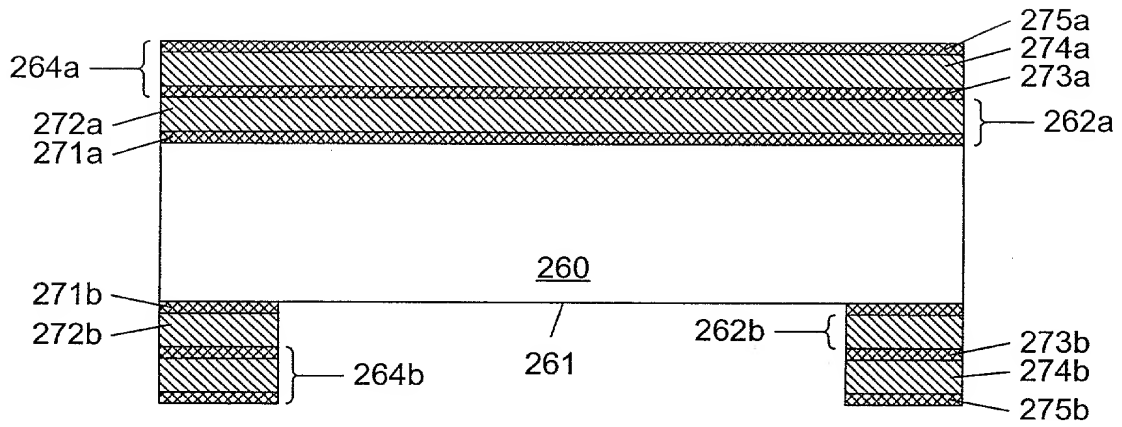


FIG. 4A

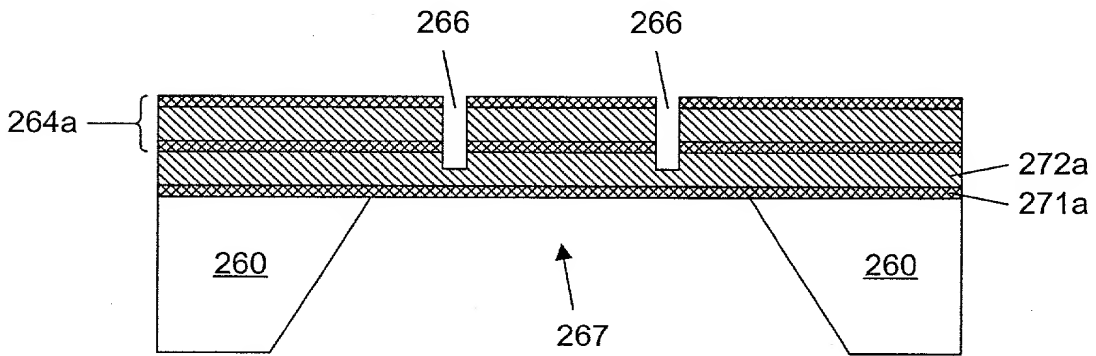


FIG. 4B

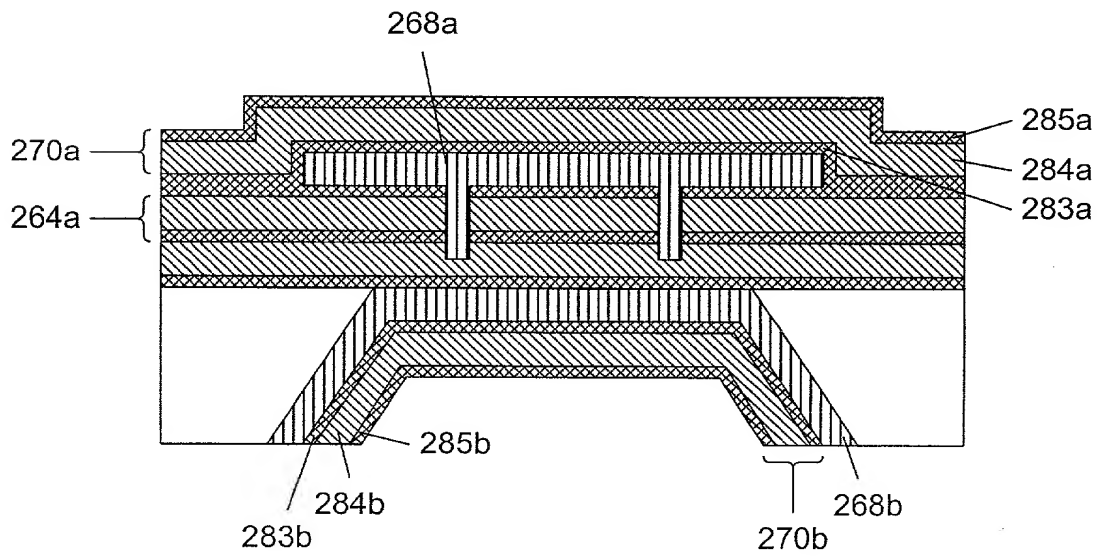


FIG. 4C

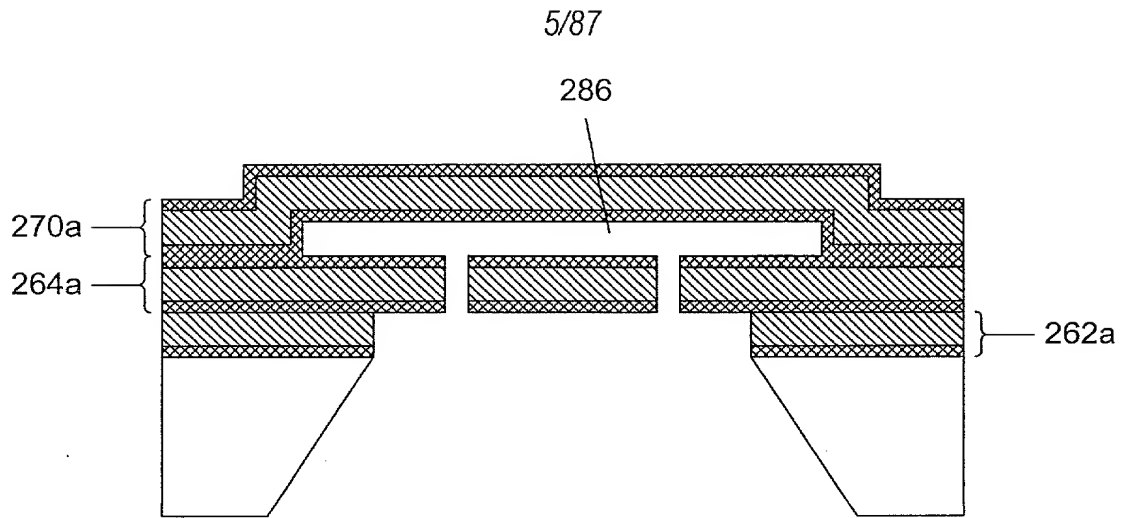


FIG. 4D

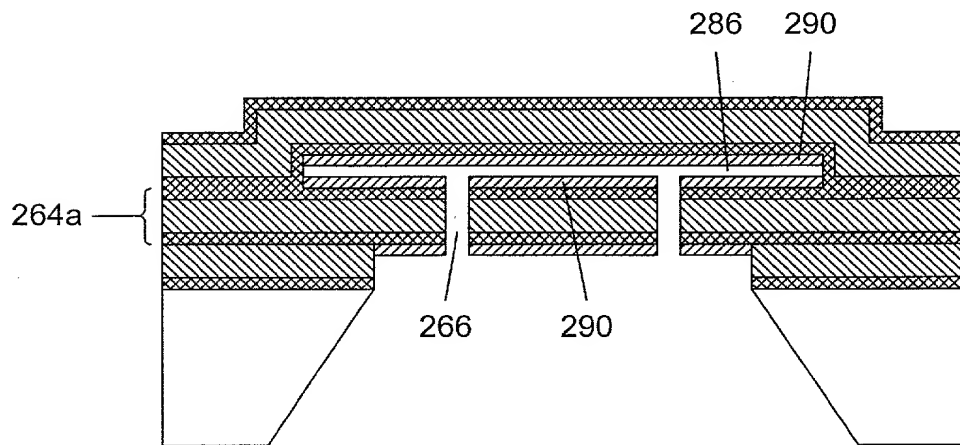


FIG. 4E

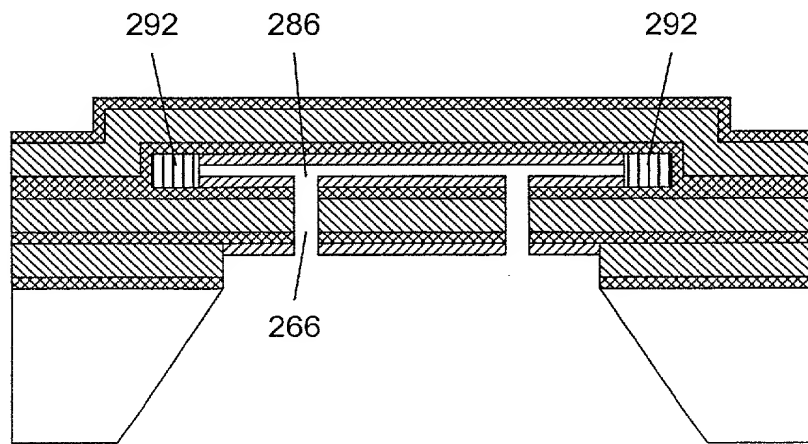


FIG. 4F

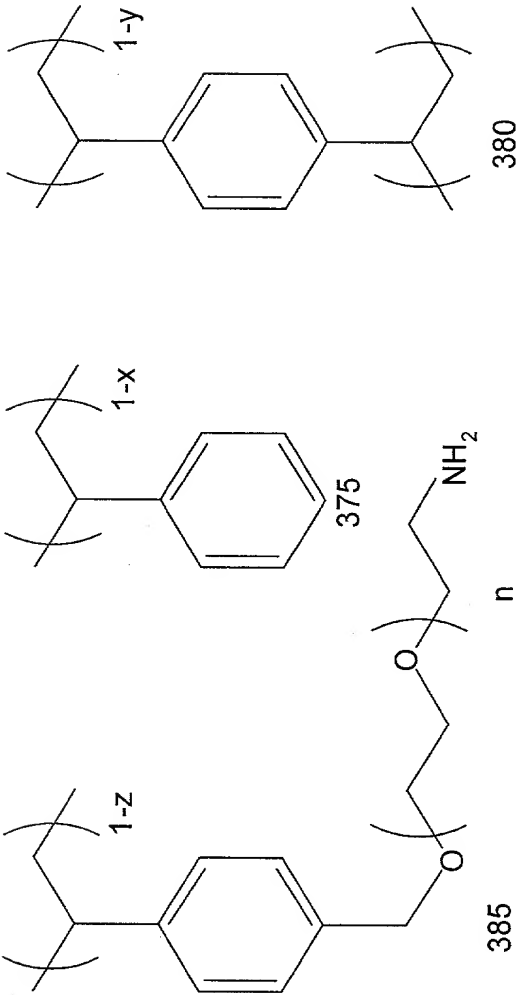


FIG. 5

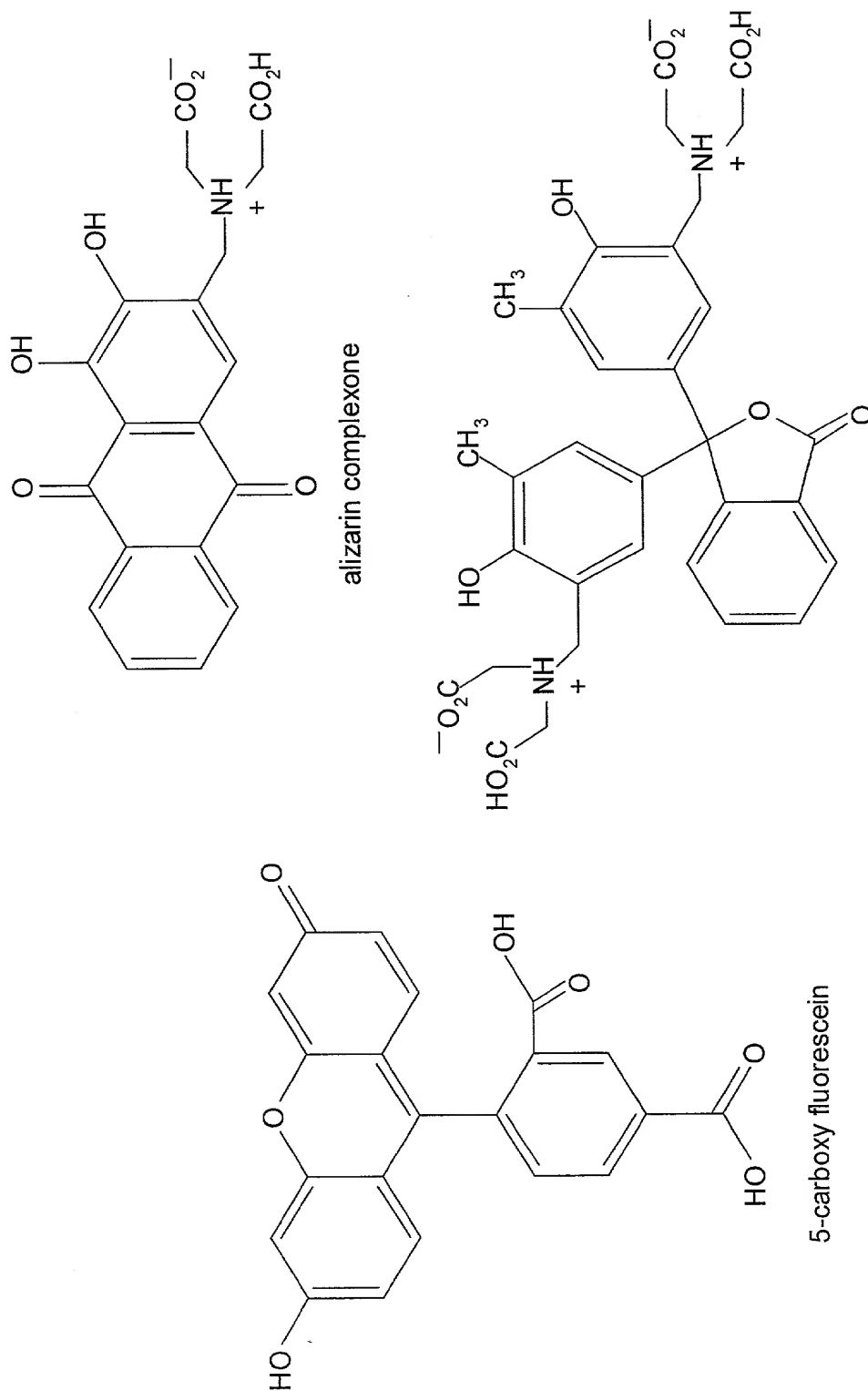


FIG. 6

o-cresolphthalein complexone

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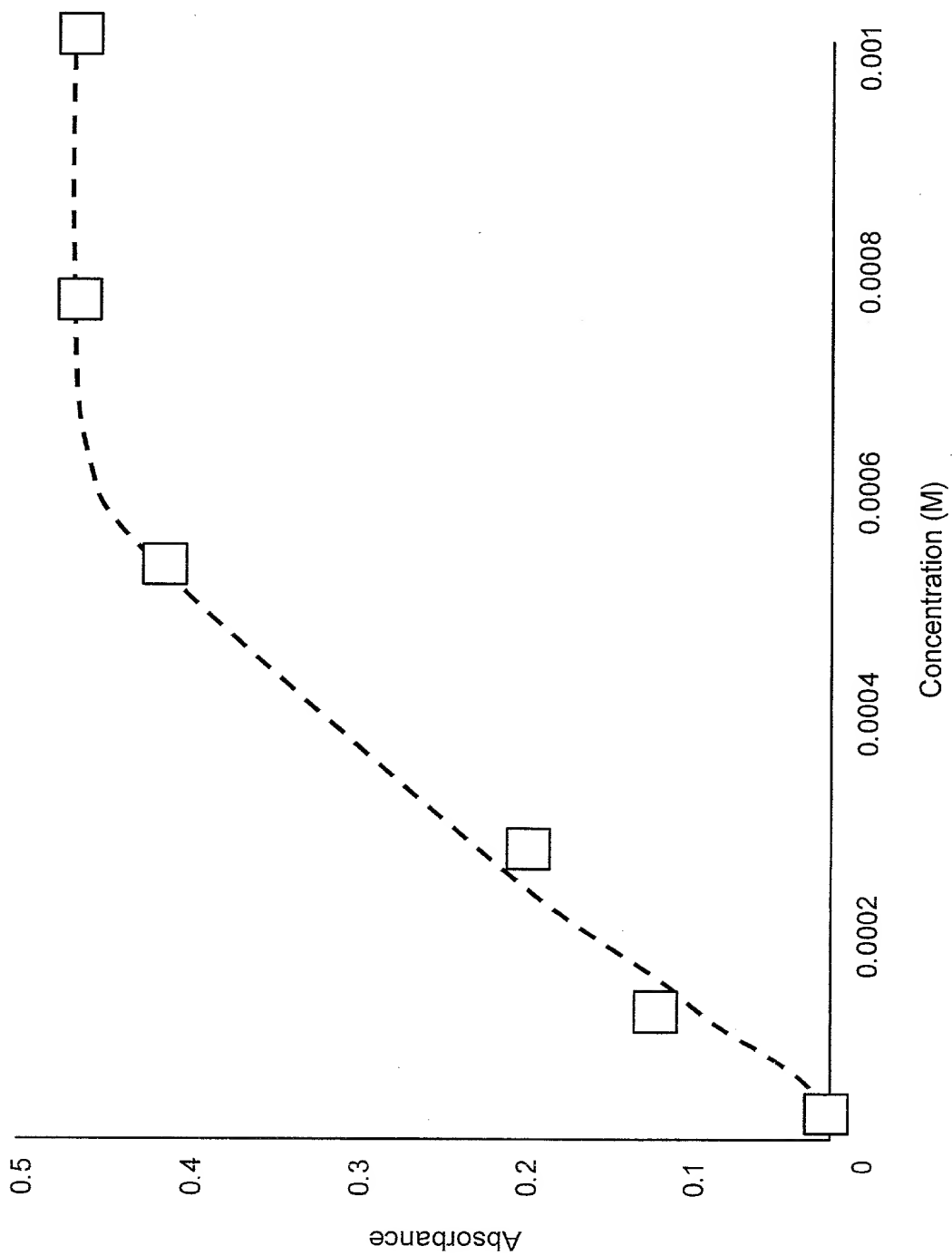


FIG. 7

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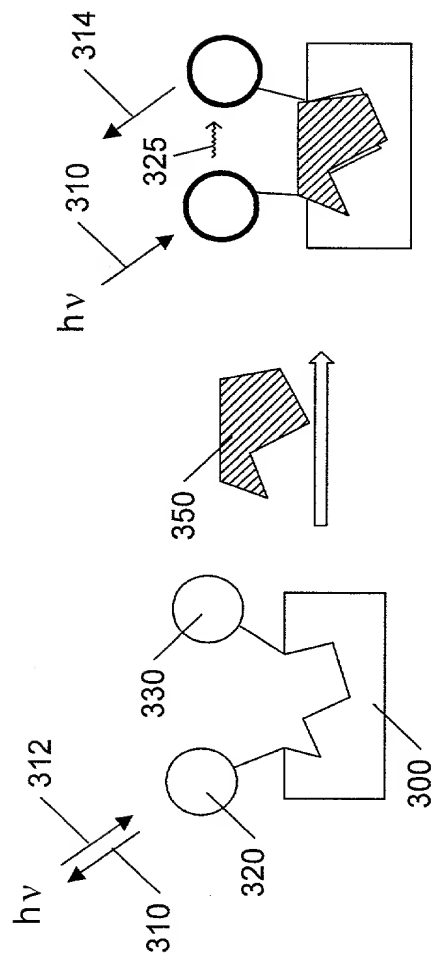


FIG. 8

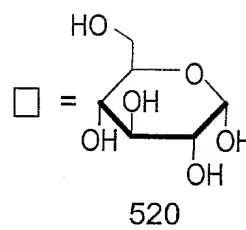
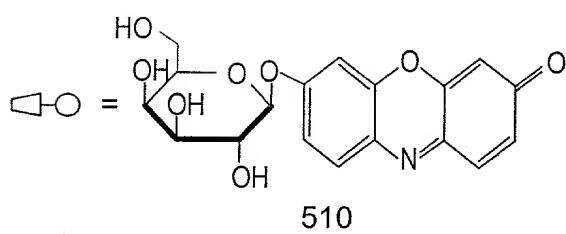
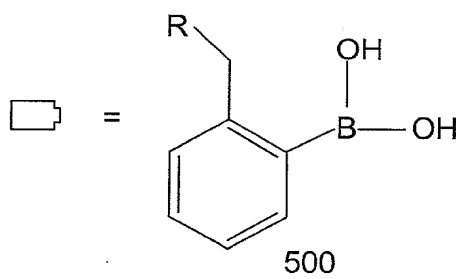
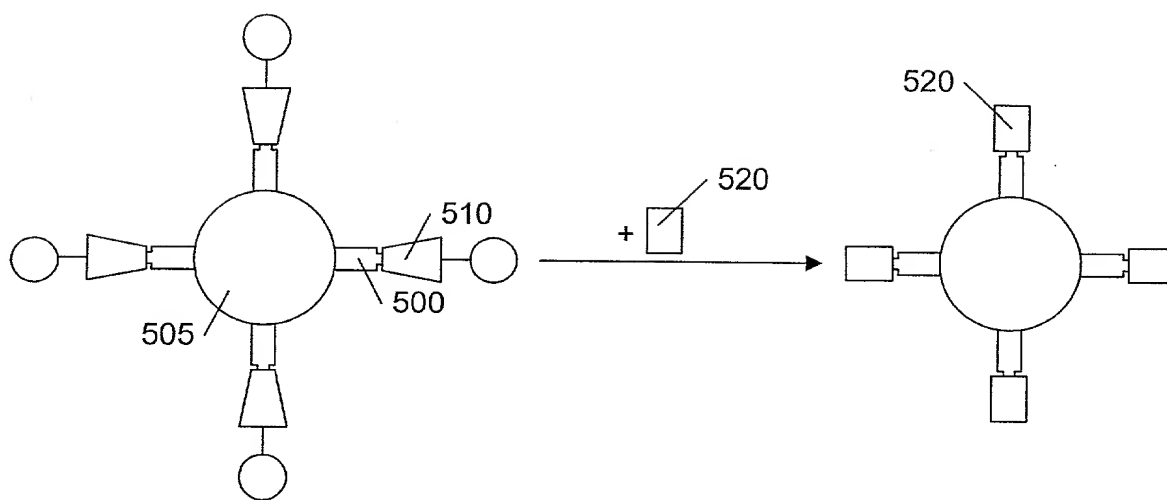
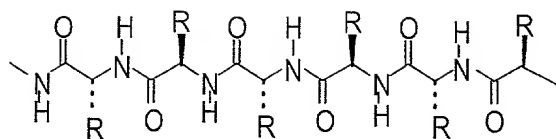
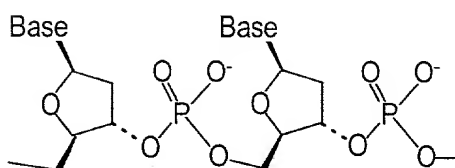


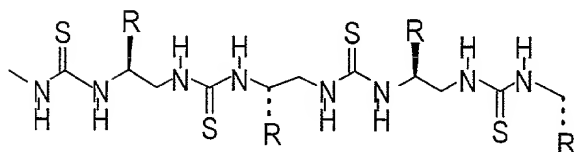
FIG. 9



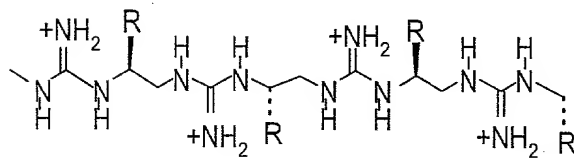
Peptides



Nucleotides



Polythioureas



Polyguanidiniums

FIG. 10

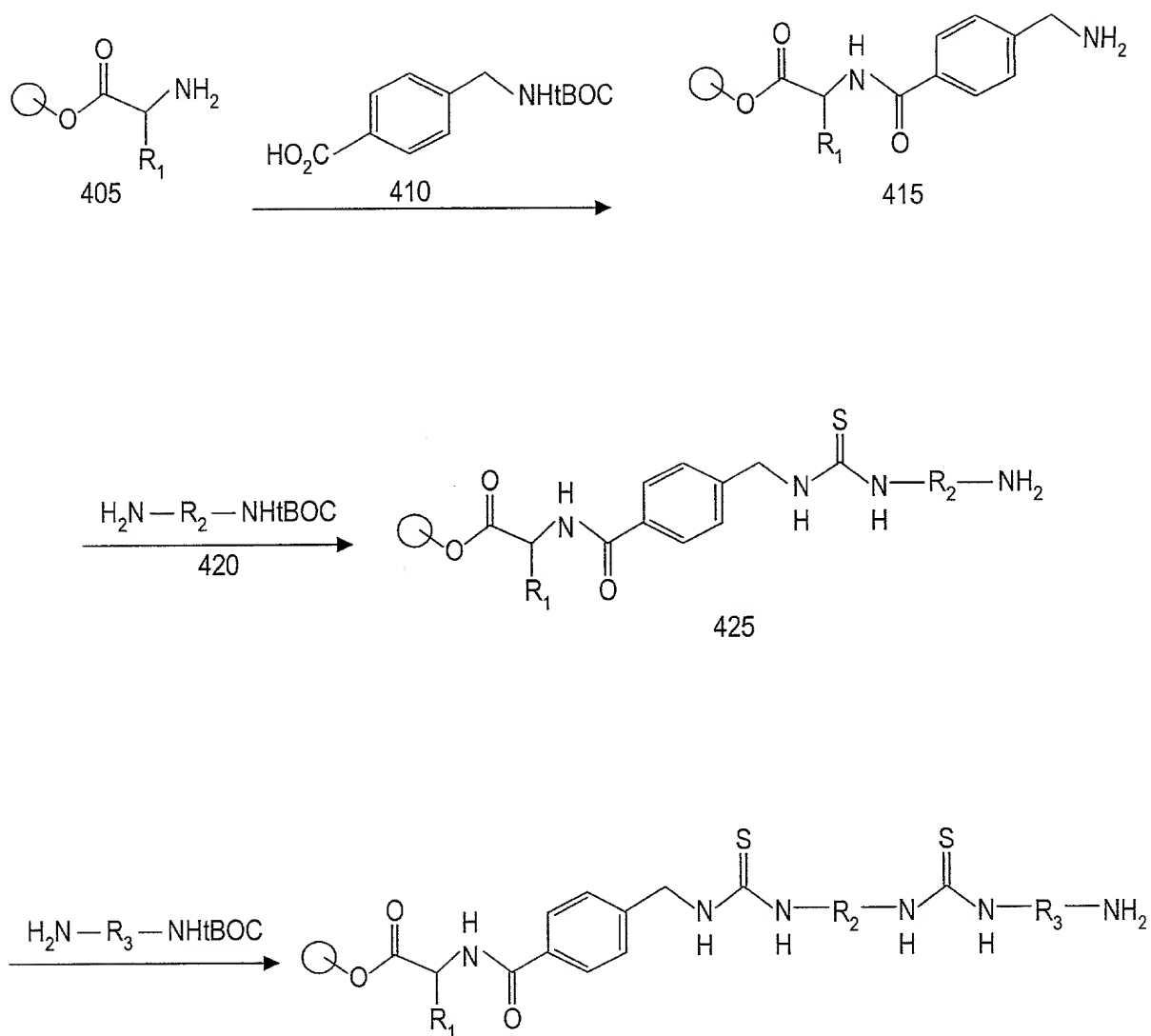


FIG. 11

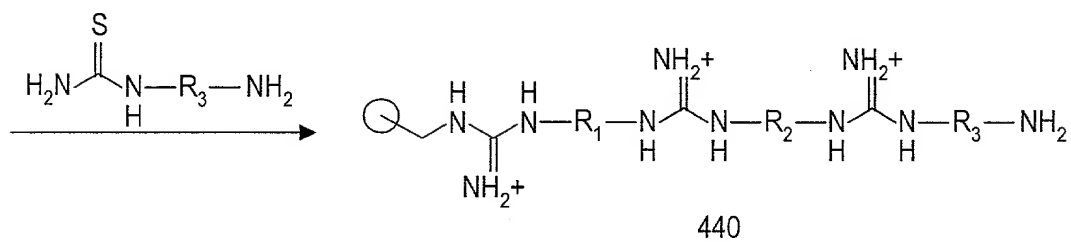
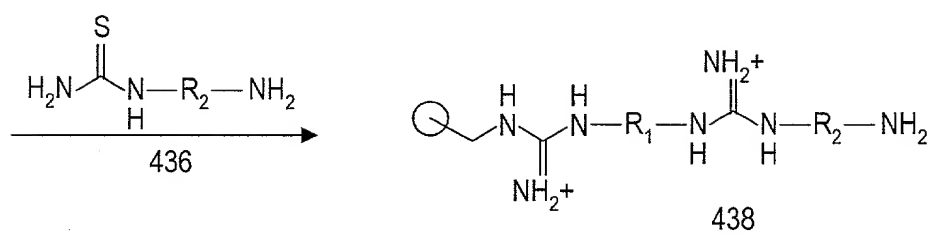
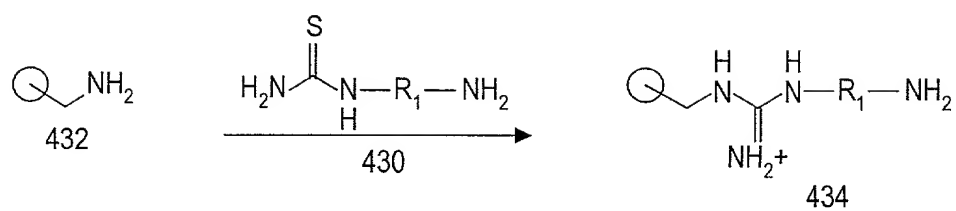


FIG. 12

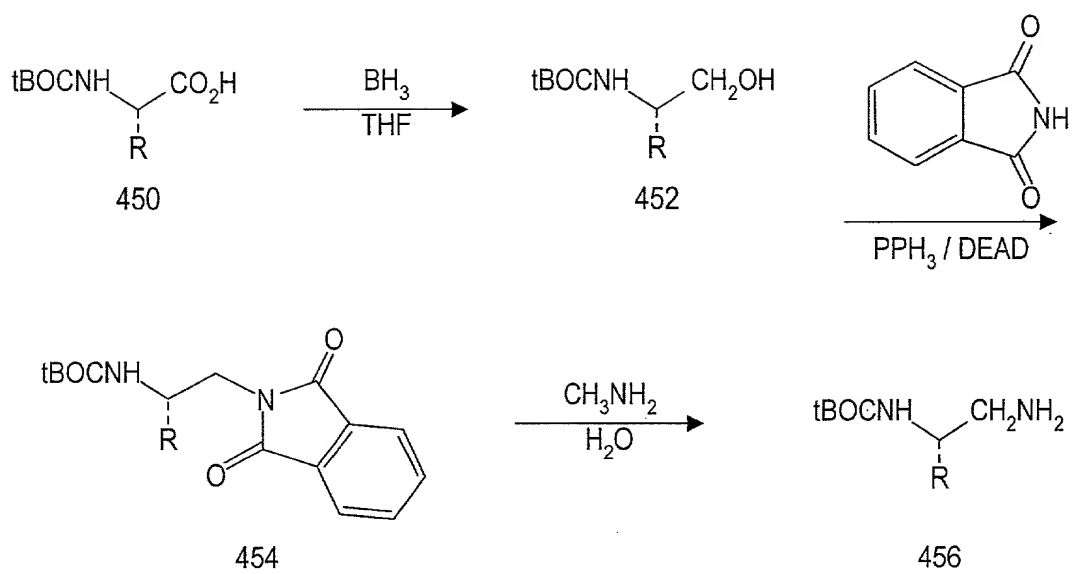


FIG. 13

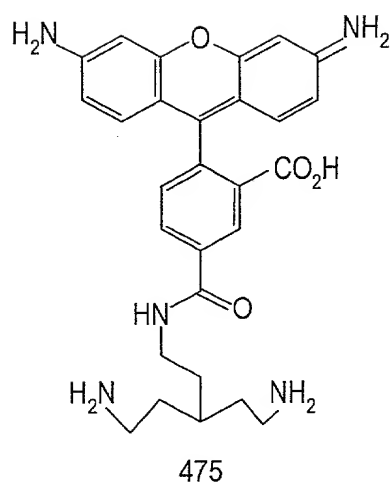
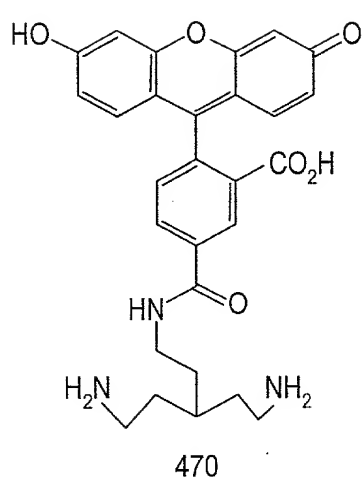
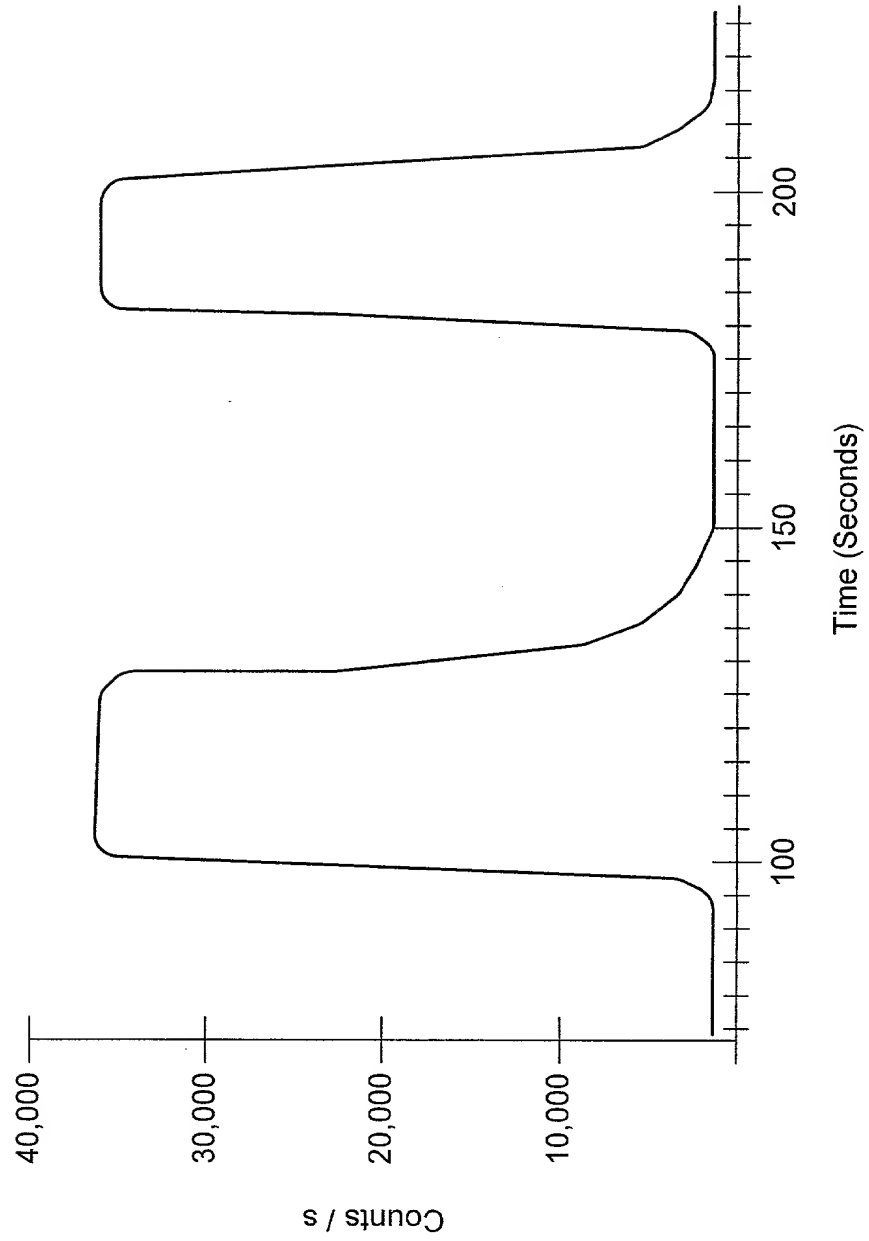


FIG. 14



RESIN: pH Ion		Blank	Alizarin	o-Cresol- phthalein	Fluorescein	Alizarin-Ce ³⁺ complex
2	none					
2	Ca ²⁺					
7	none					
7	Ca ²⁺					
7	F ⁻					
12	none					
12	Ca ²⁺					
12	F ⁻					

FIG. 16

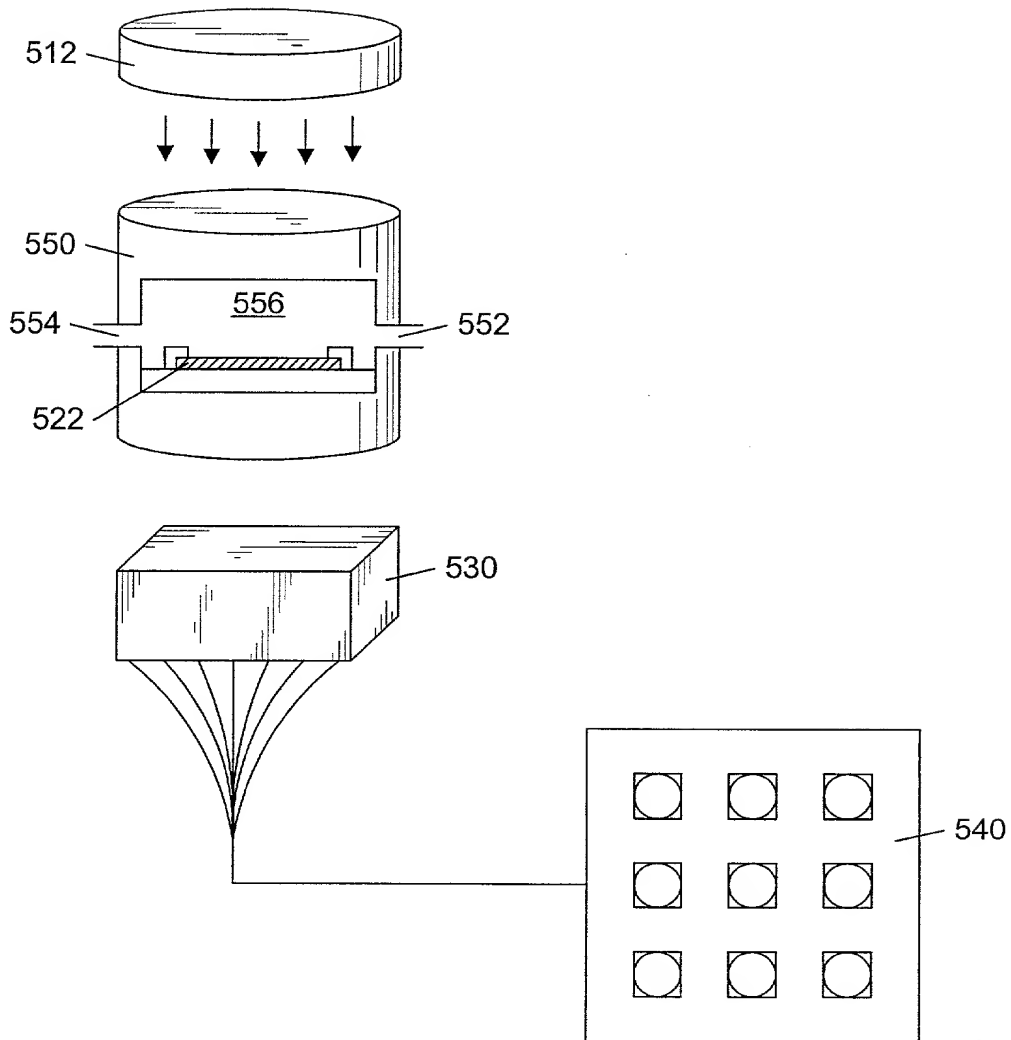


FIG. 17

FIG. 17

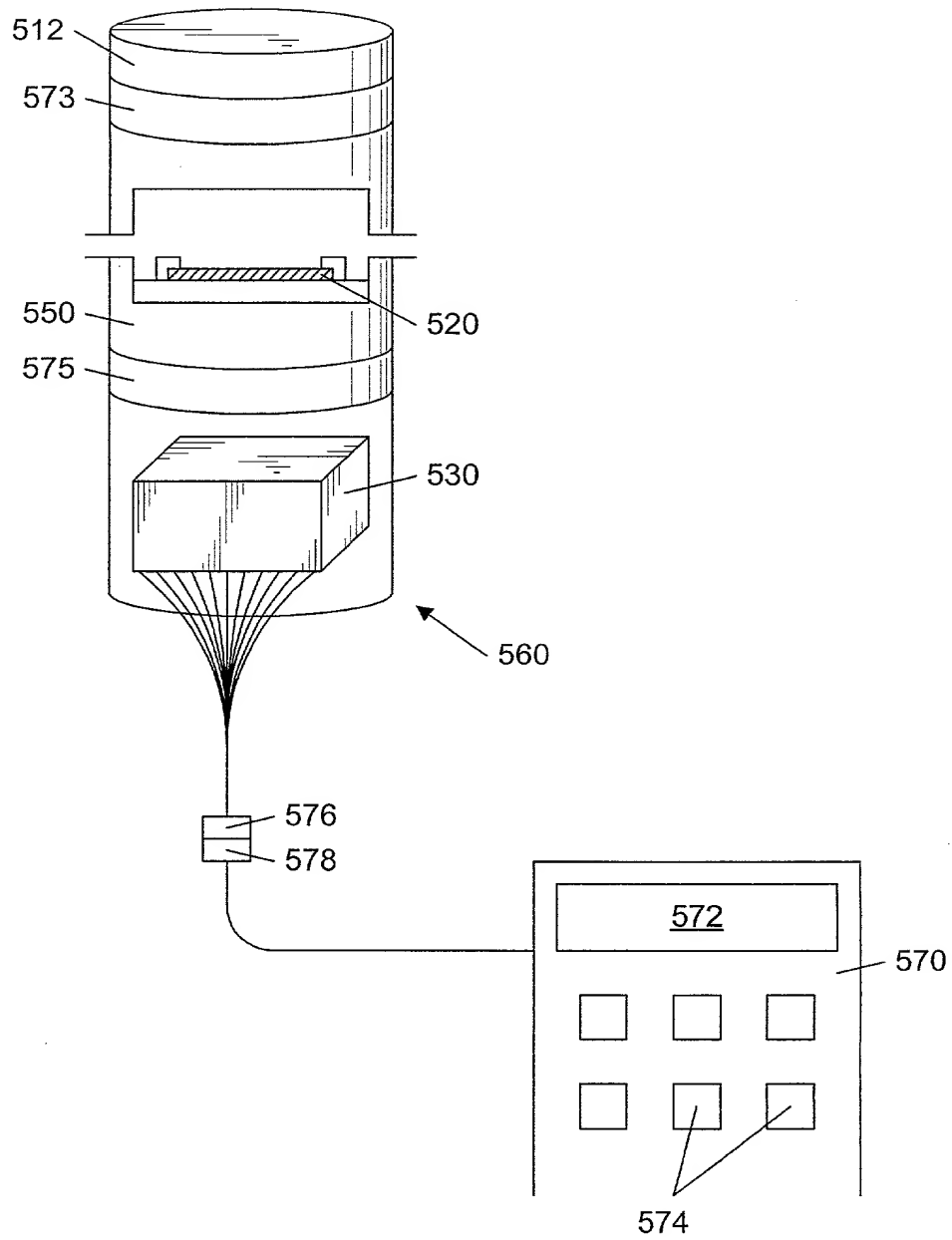


FIG. 18

09775940-083401
TOP SECRET

FIG. 19

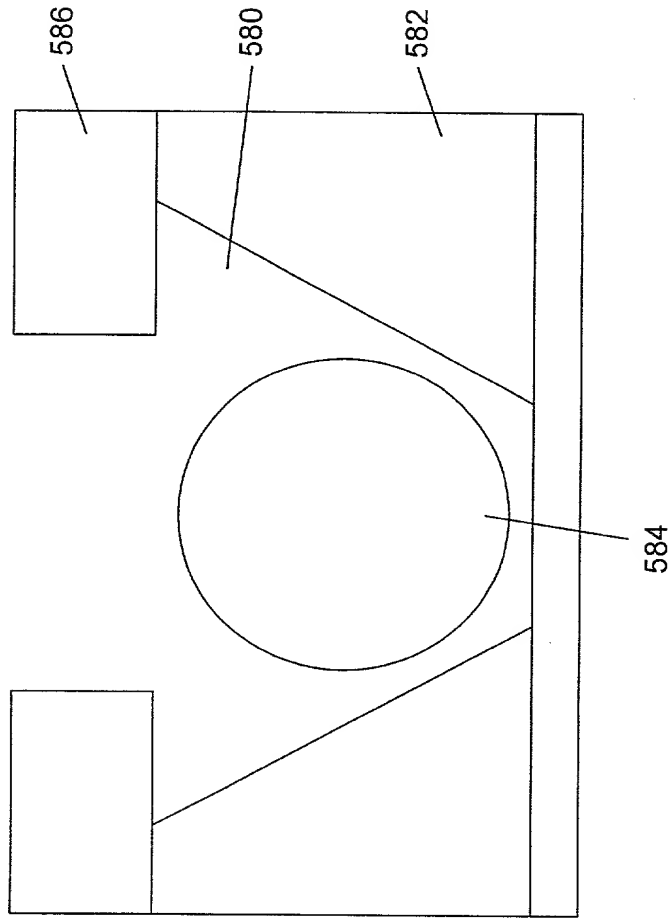
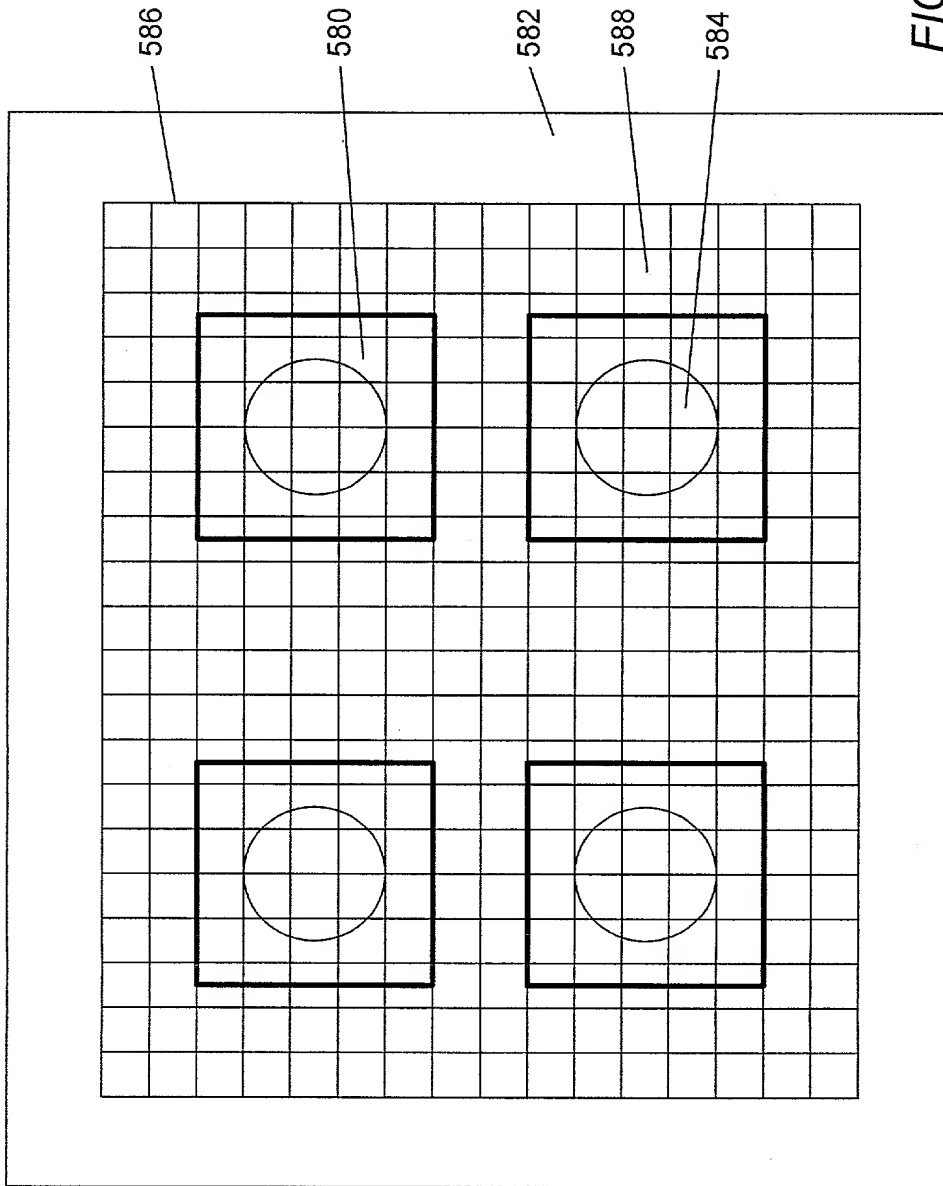


FIG. 19



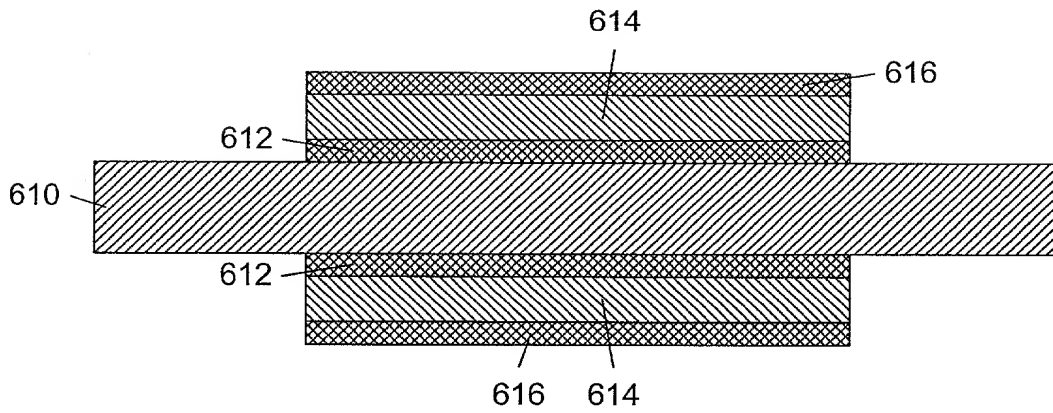


FIG. 21A

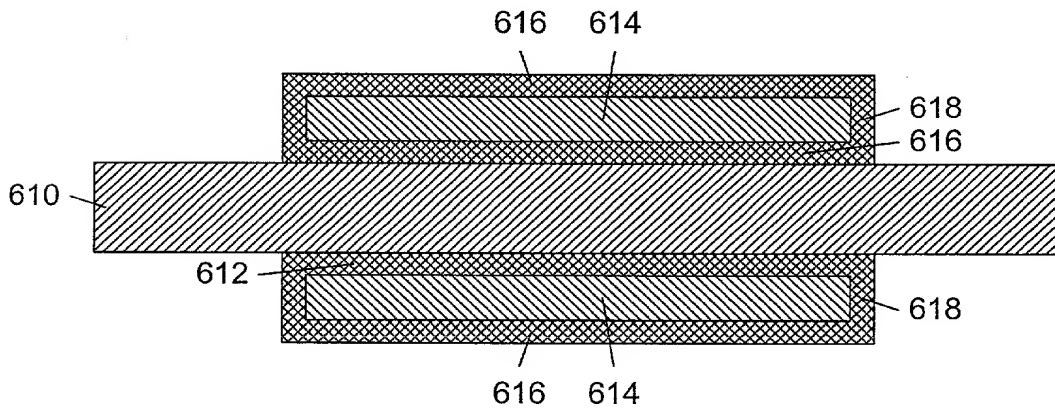


FIG. 21B

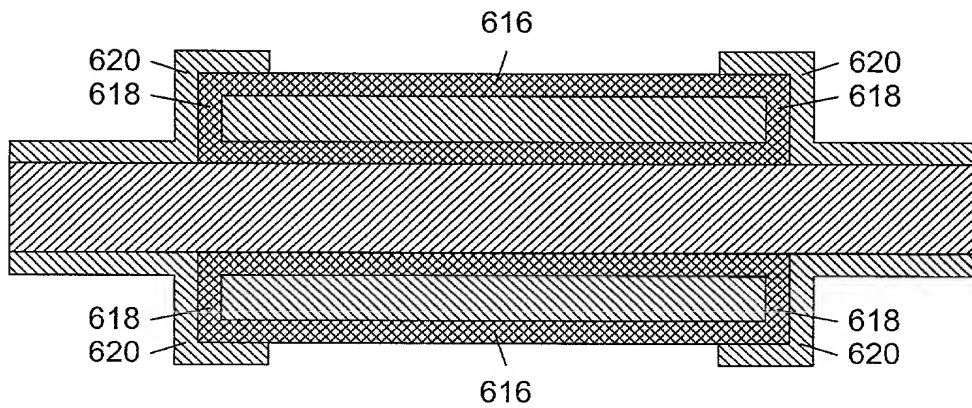


FIG. 21C

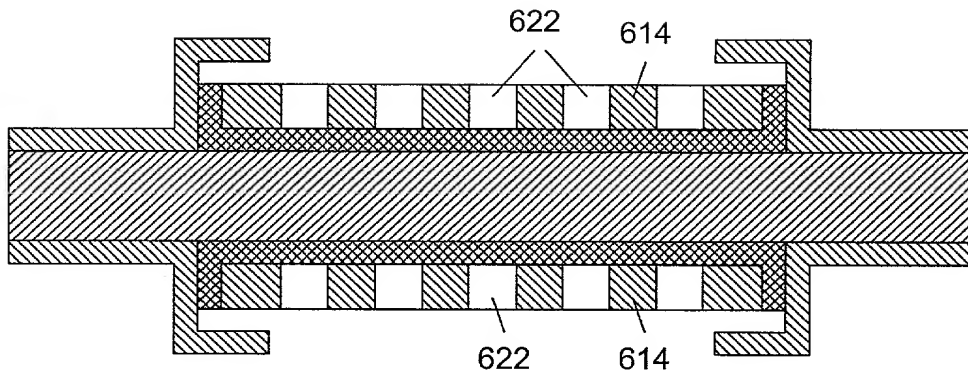


FIG. 21D

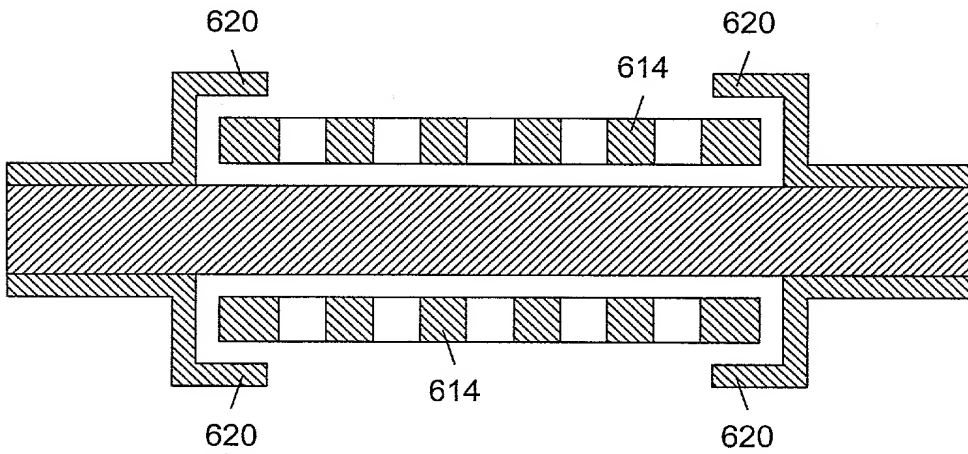


FIG. 21E

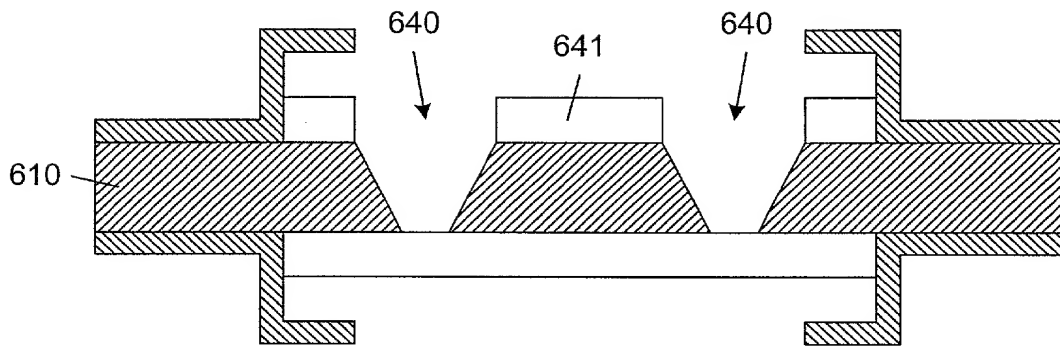


FIG. 21F

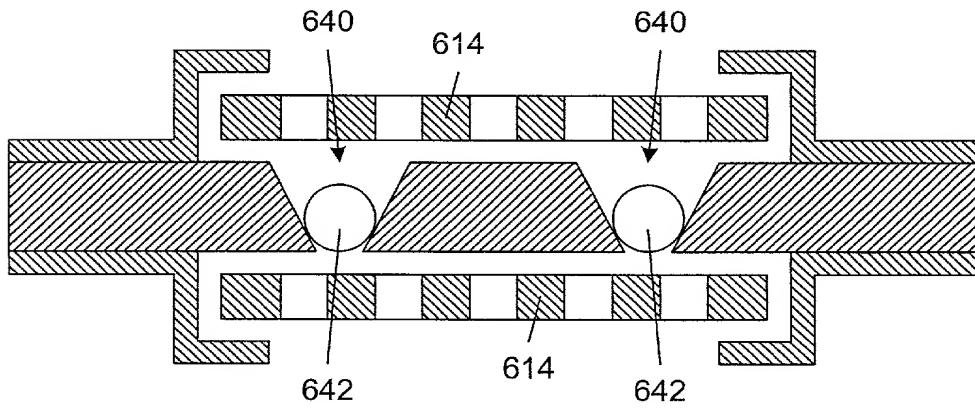


FIG. 21G

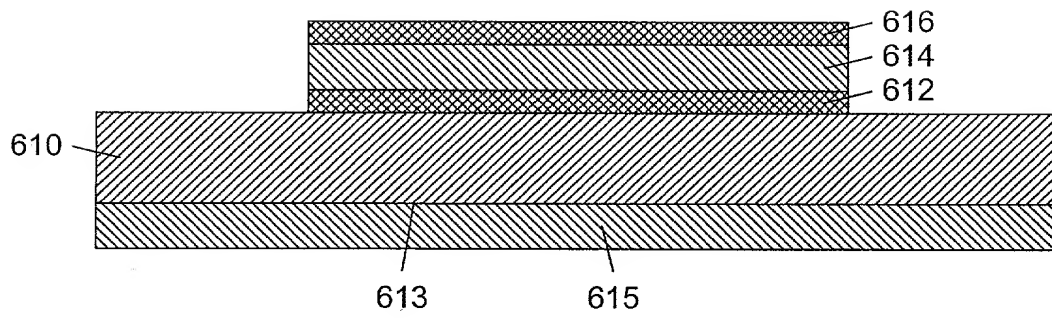


FIG. 22A

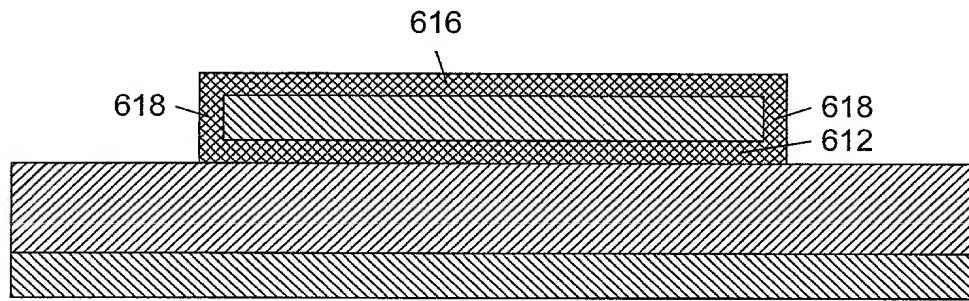


FIG. 22B

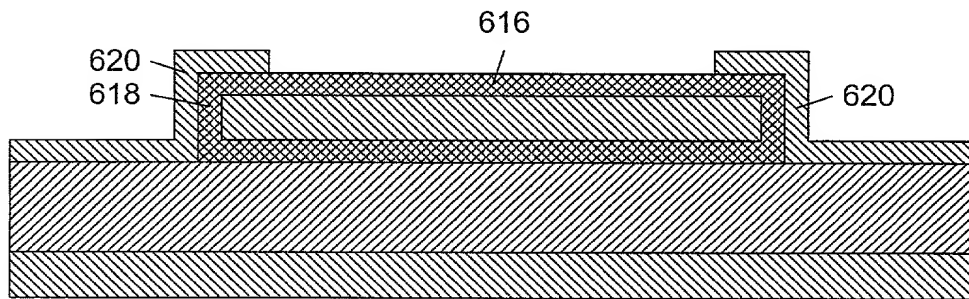


FIG. 22C

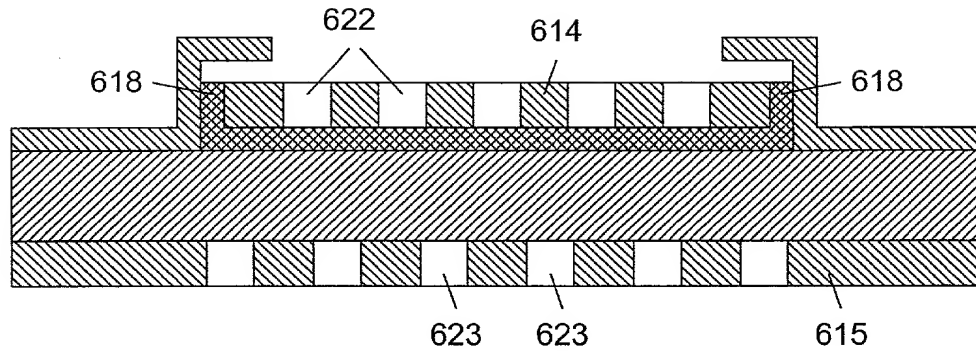


FIG. 22D

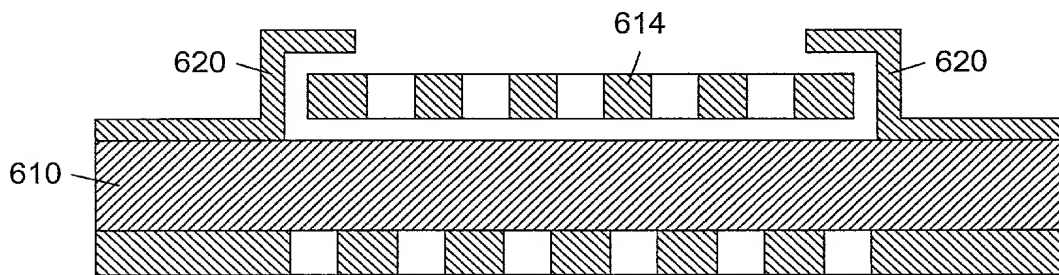


FIG. 22E

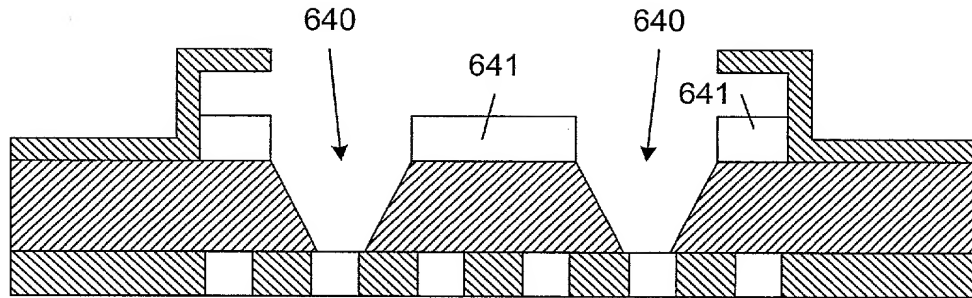


FIG. 22F

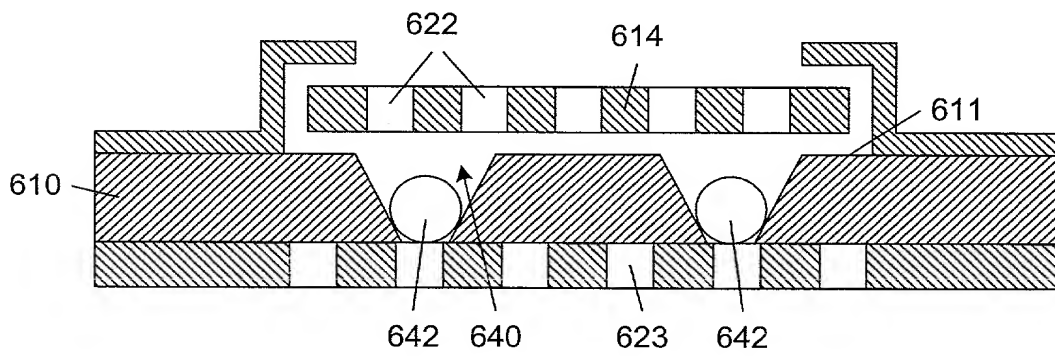


FIG. 22G

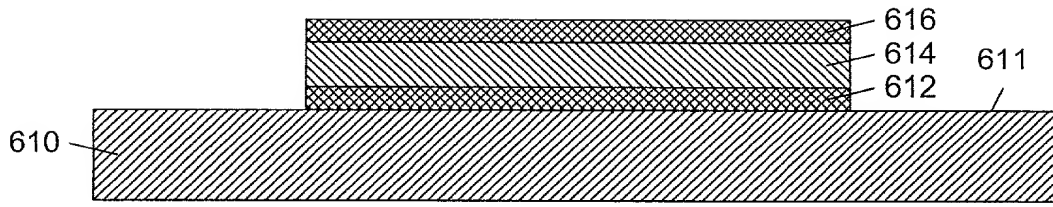


FIG. 23A

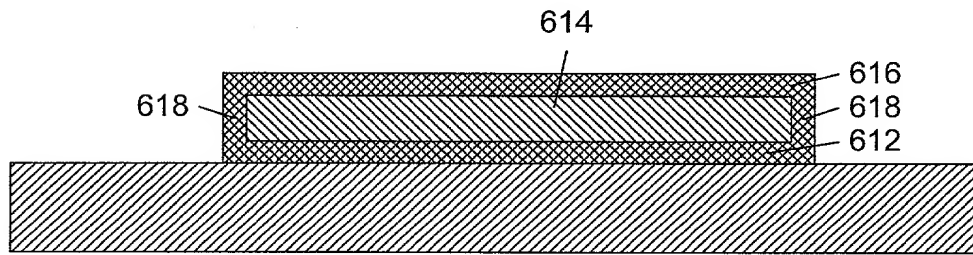


FIG. 23B

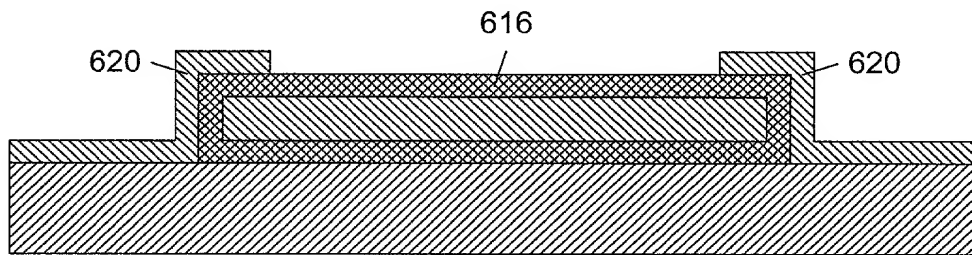


FIG. 23C

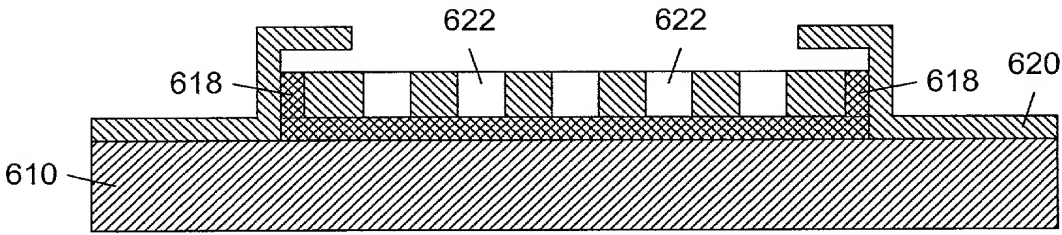


FIG. 23D

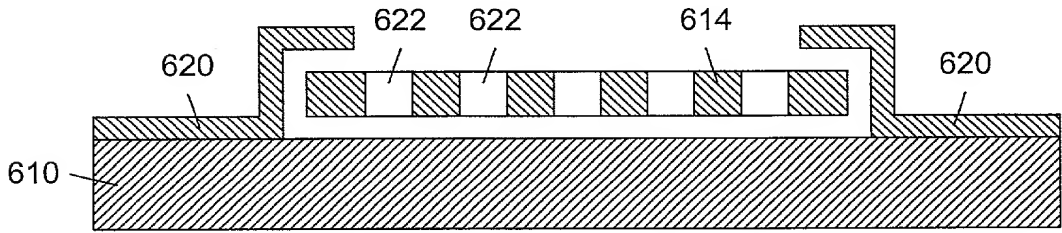


FIG. 23E

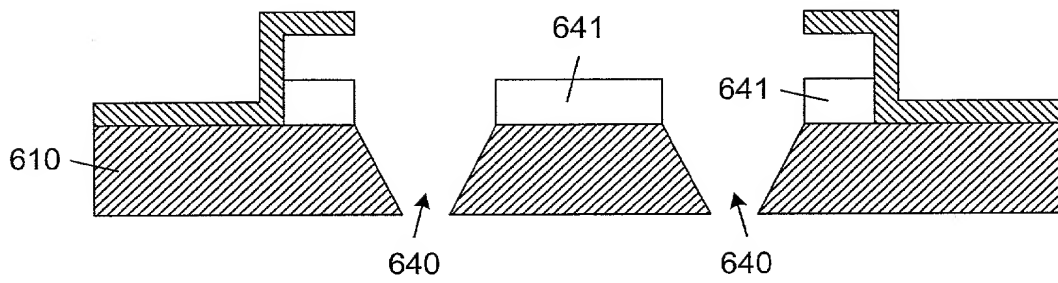


FIG. 23F

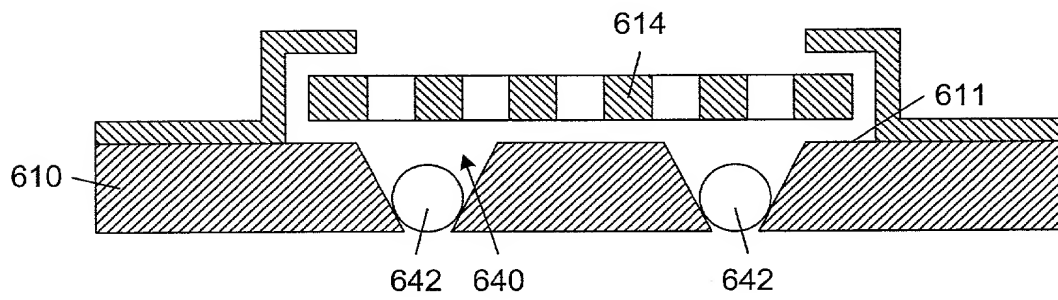


FIG. 23G

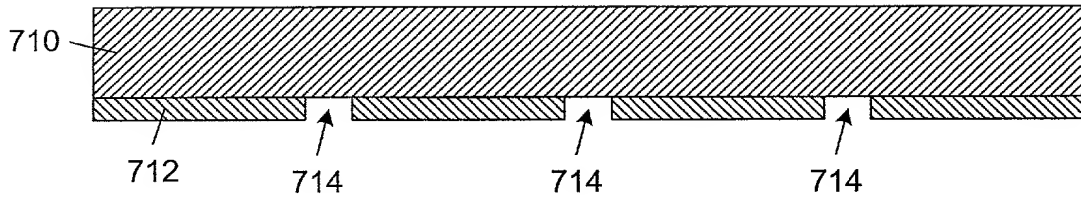


FIG. 24A

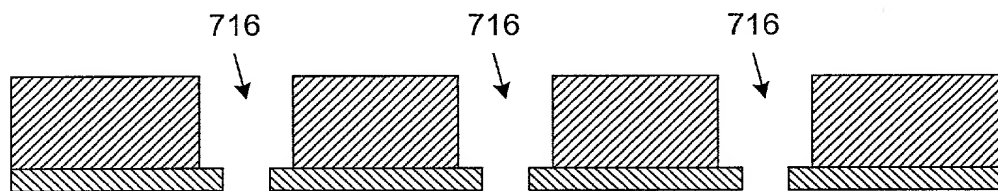


FIG. 24B

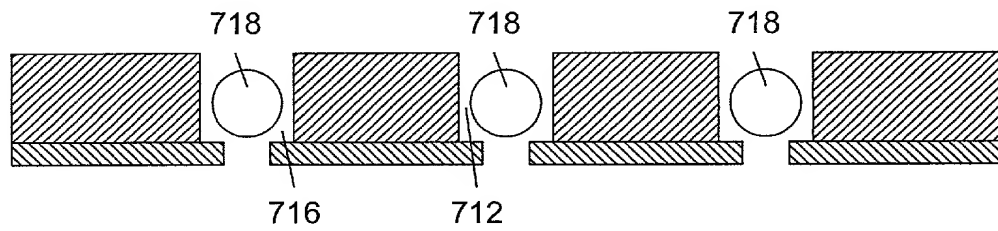


FIG. 24C

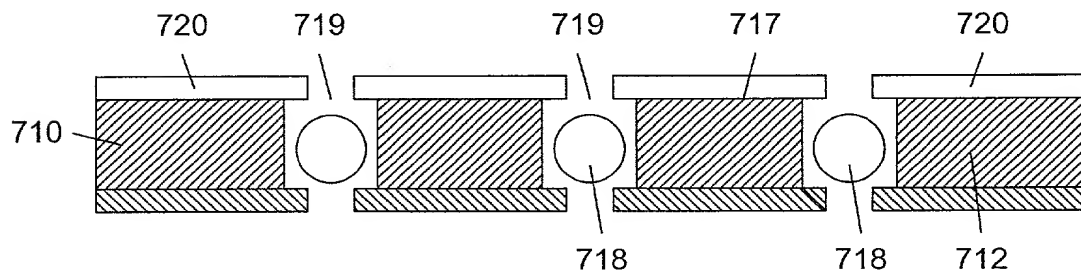


FIG. 24D

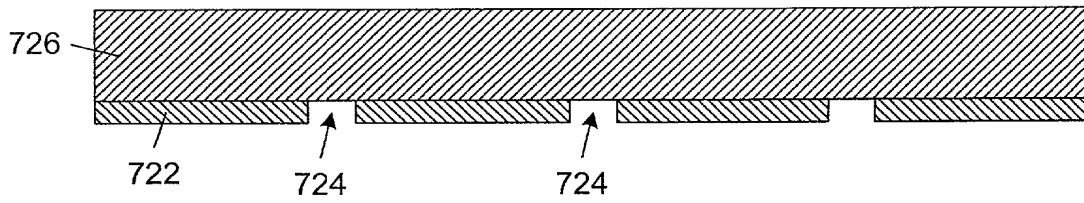


FIG. 25A

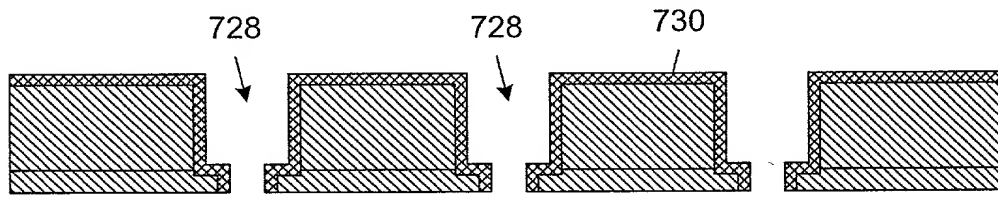


FIG. 25B

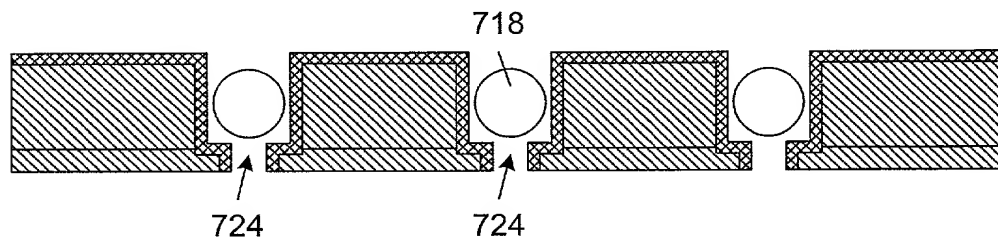


FIG. 25C

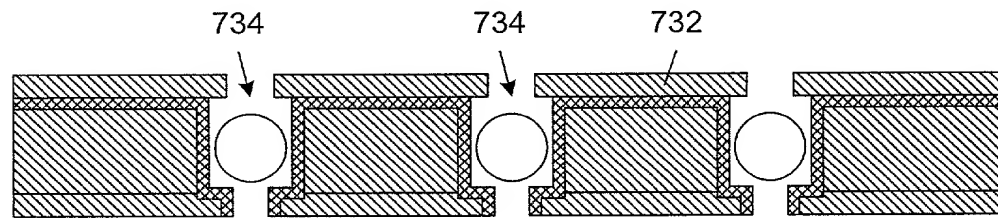
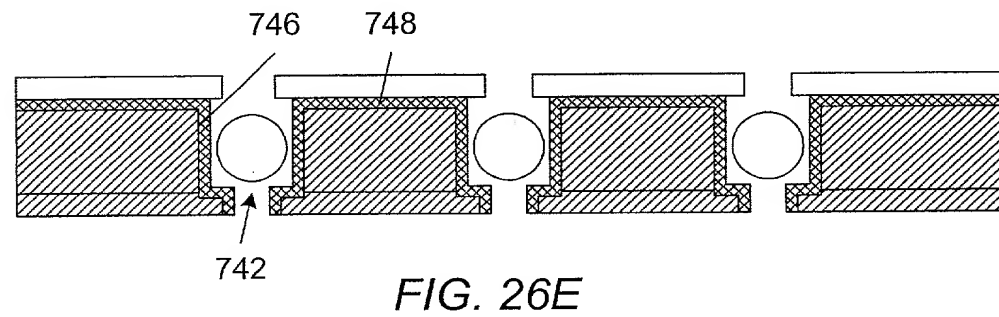
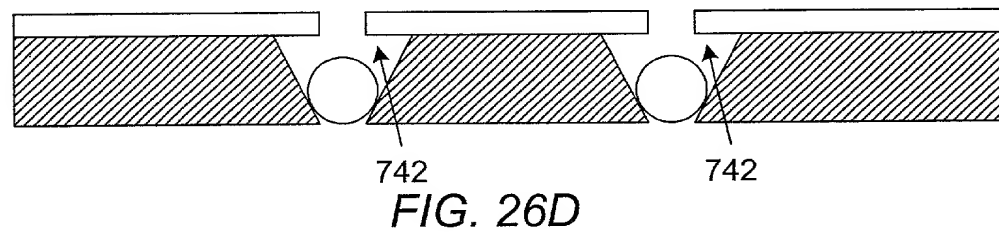
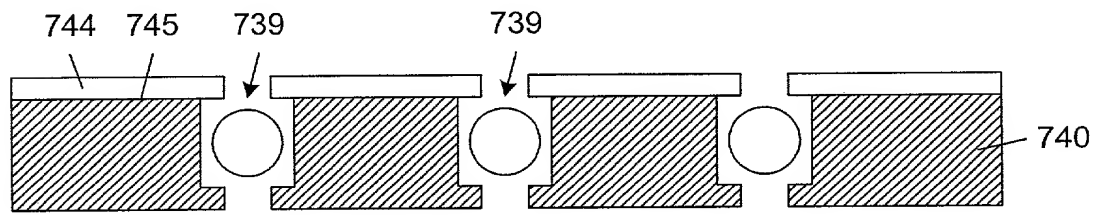
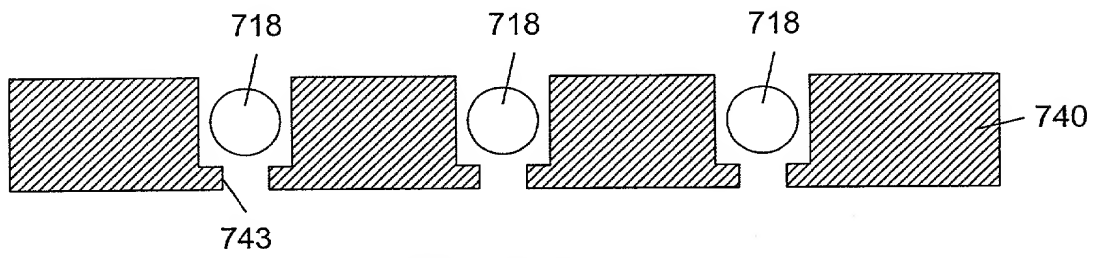
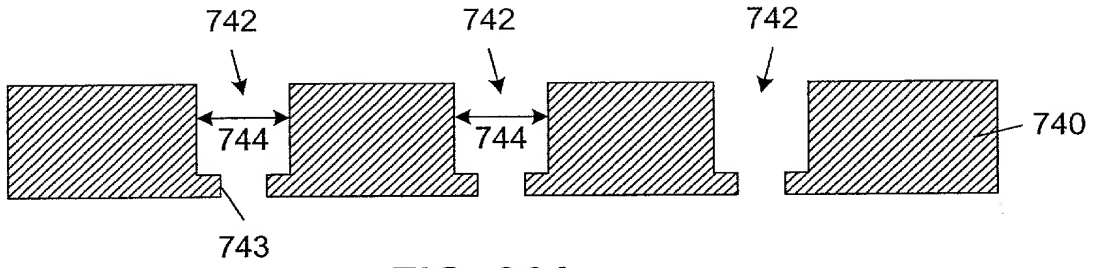


FIG. 25D

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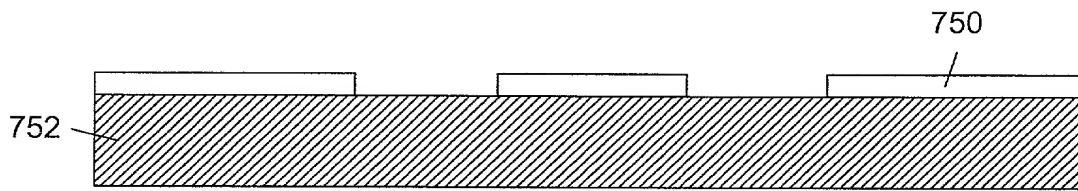


FIG. 27A

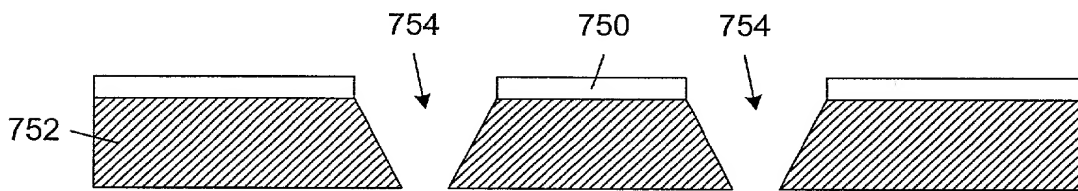


FIG. 27B

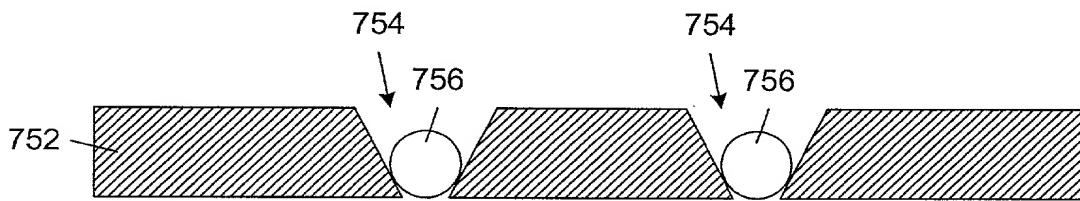


FIG. 27C

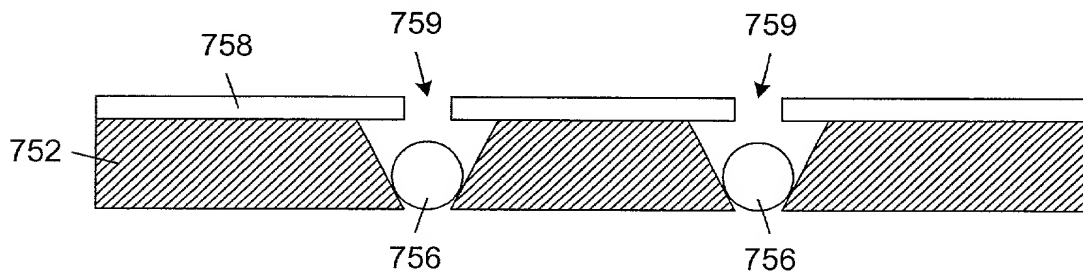


FIG. 27D



FIG. 28A

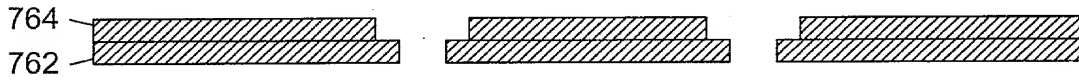


FIG. 28B

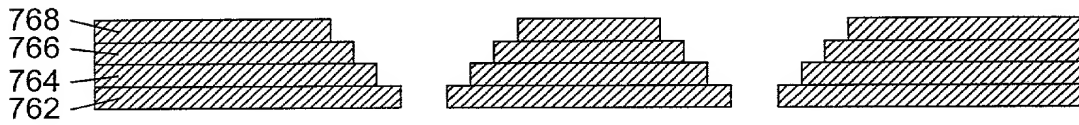


FIG. 28C

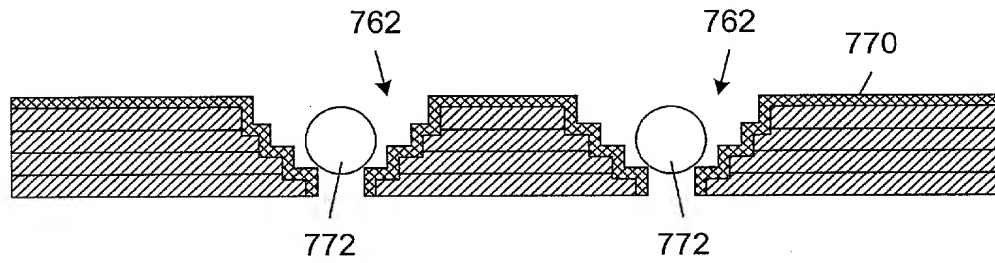


FIG. 28D

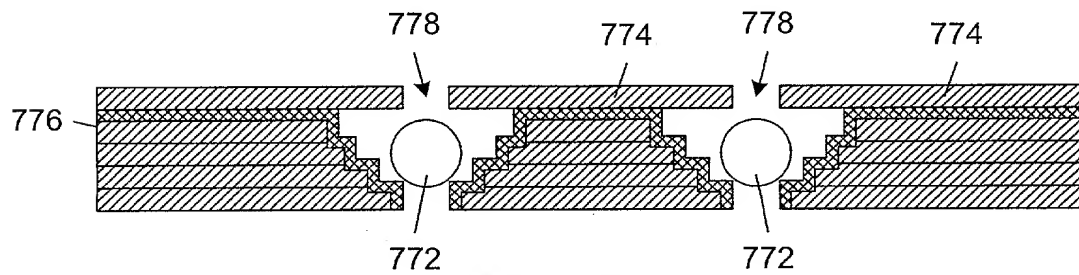


FIG. 28E

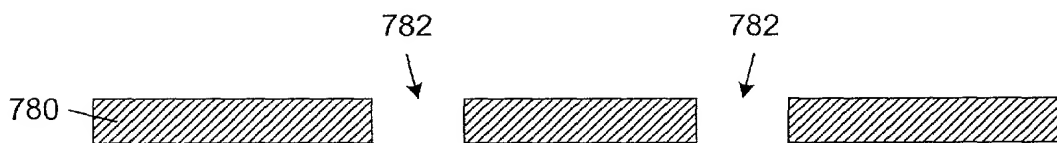


FIG. 29A

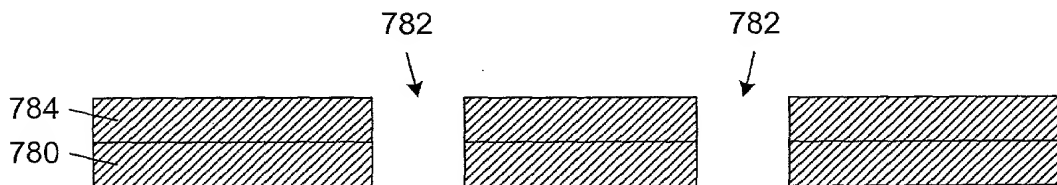


FIG. 29B

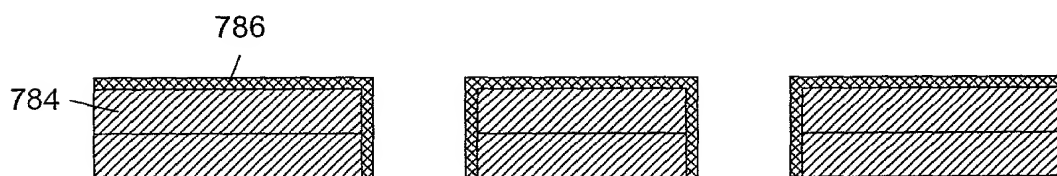


FIG. 29C

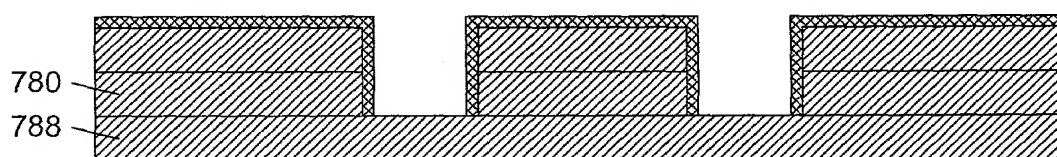


FIG. 29D

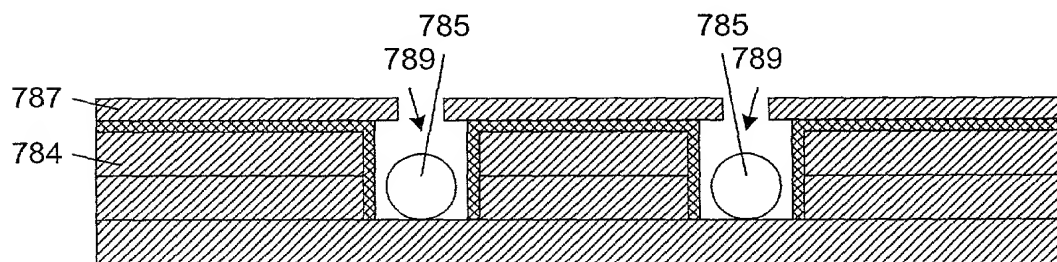


FIG. 29E

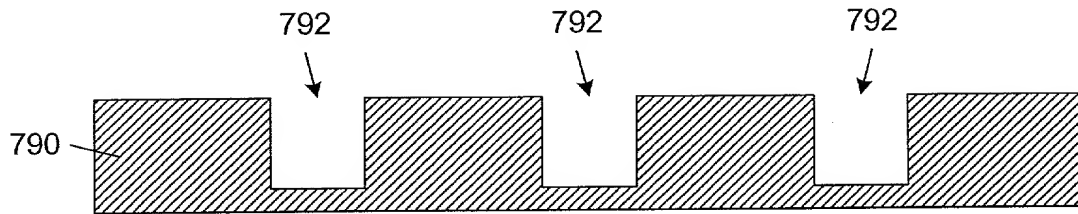


FIG. 30A

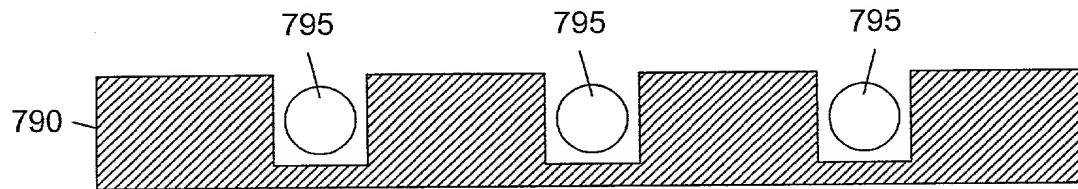


FIG. 30B

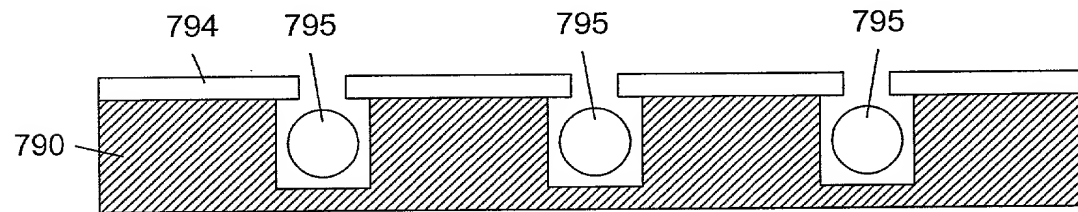


FIG. 30C

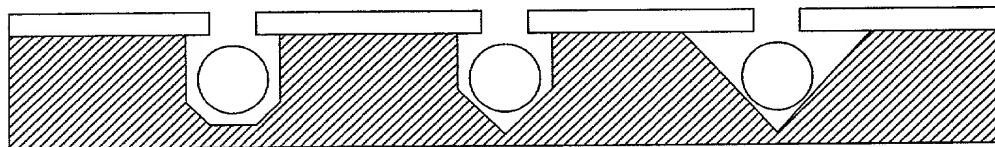


FIG. 30D

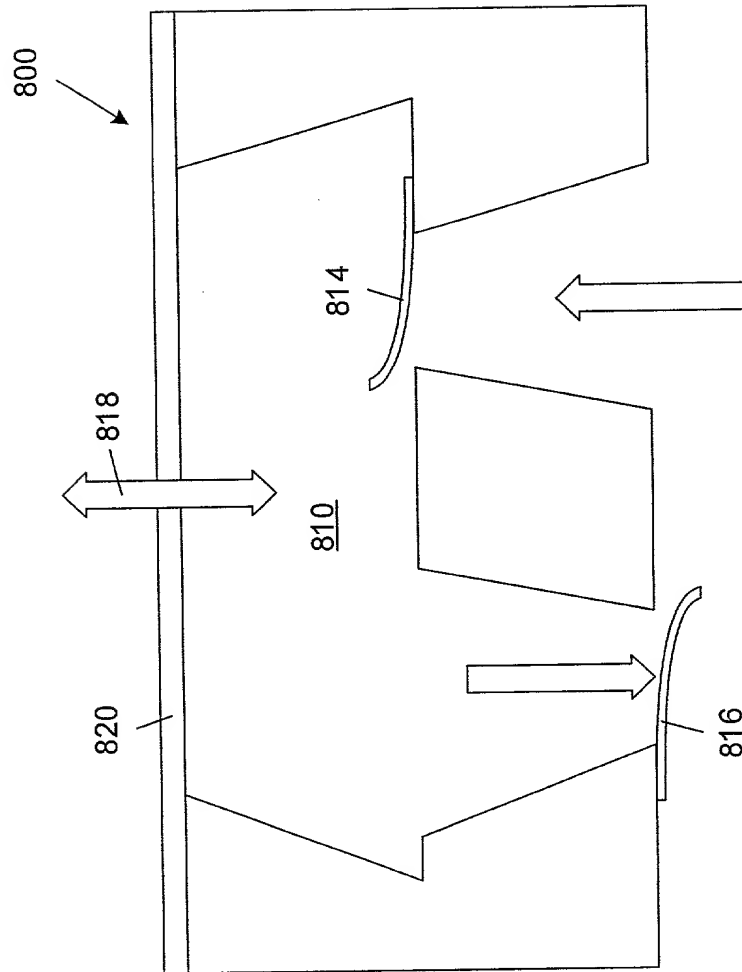


FIG. 31

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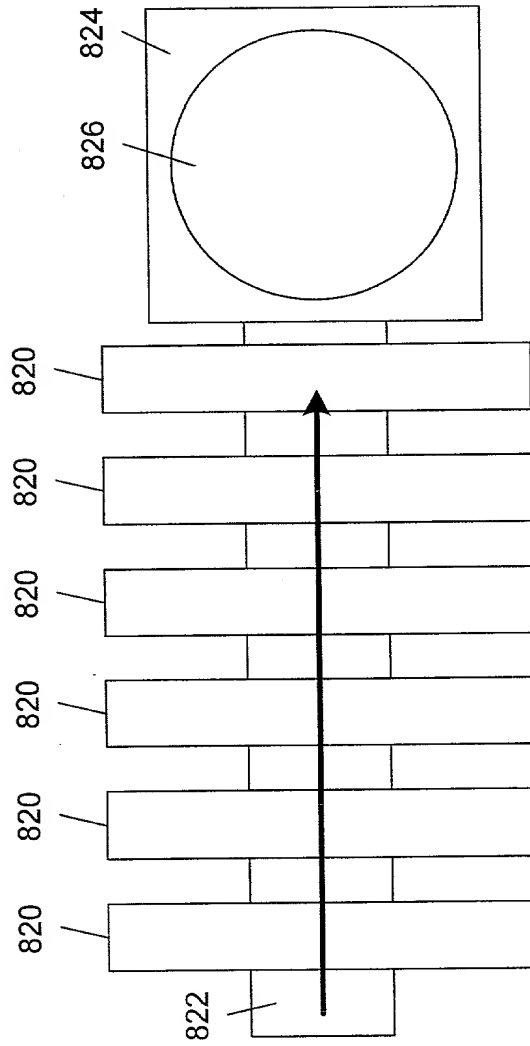


FIG. 32

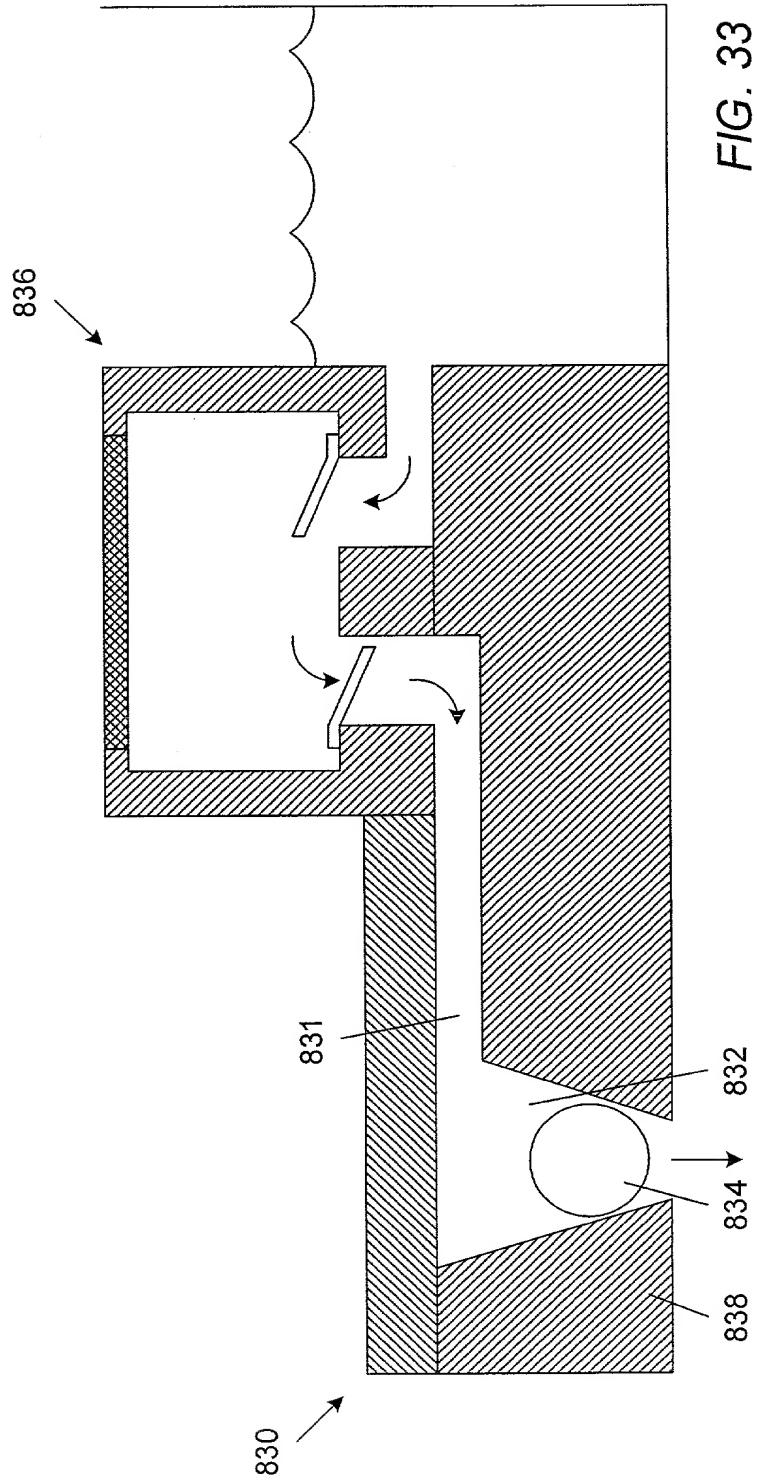
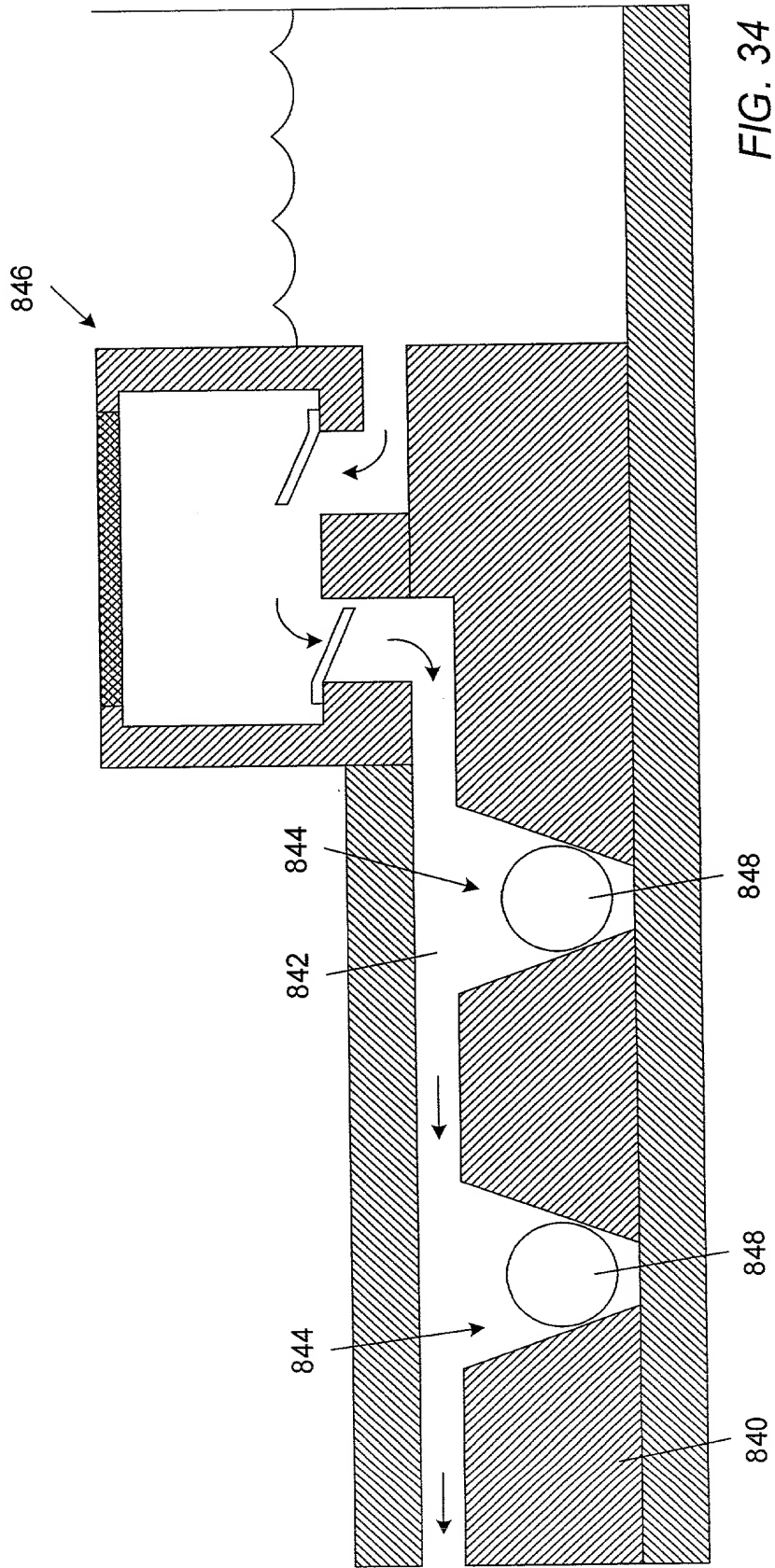
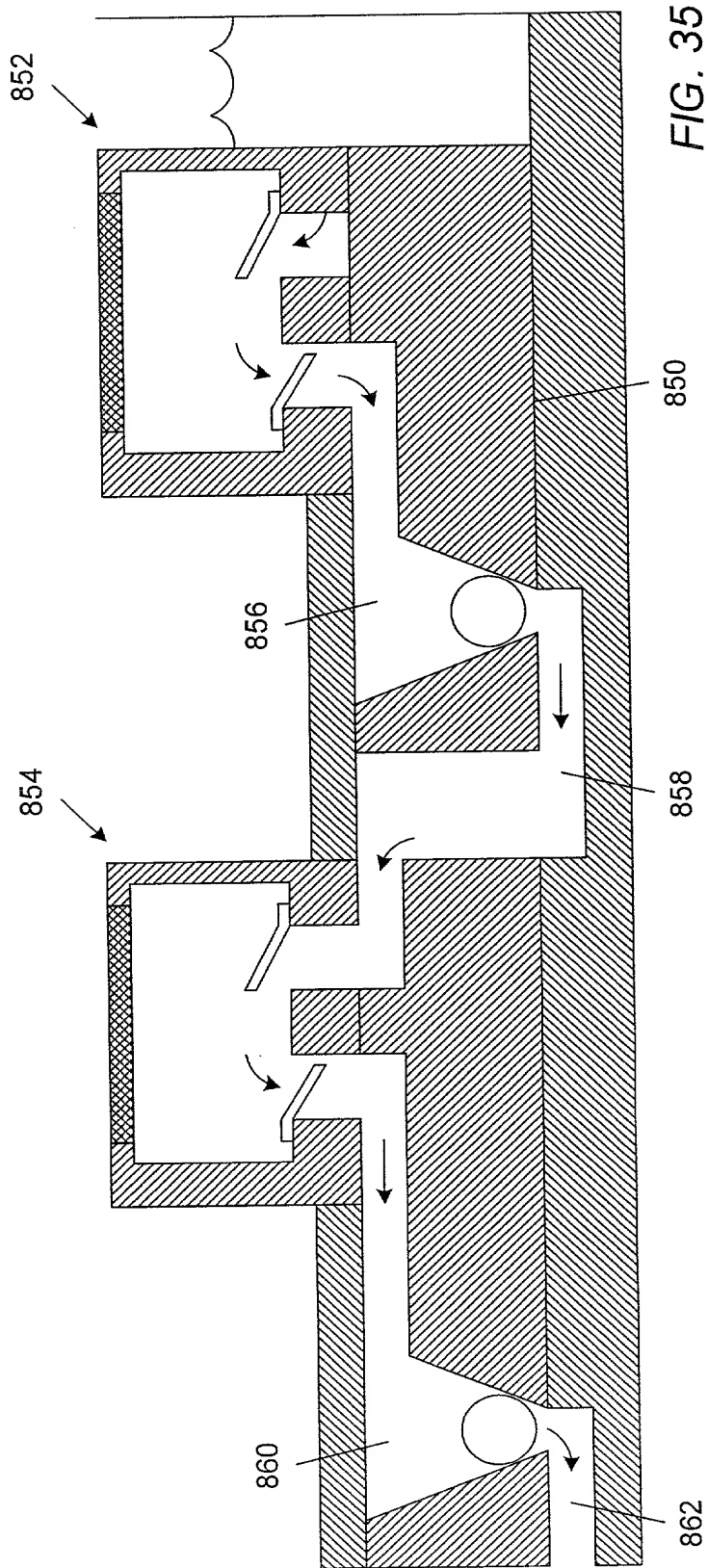


FIG. 33





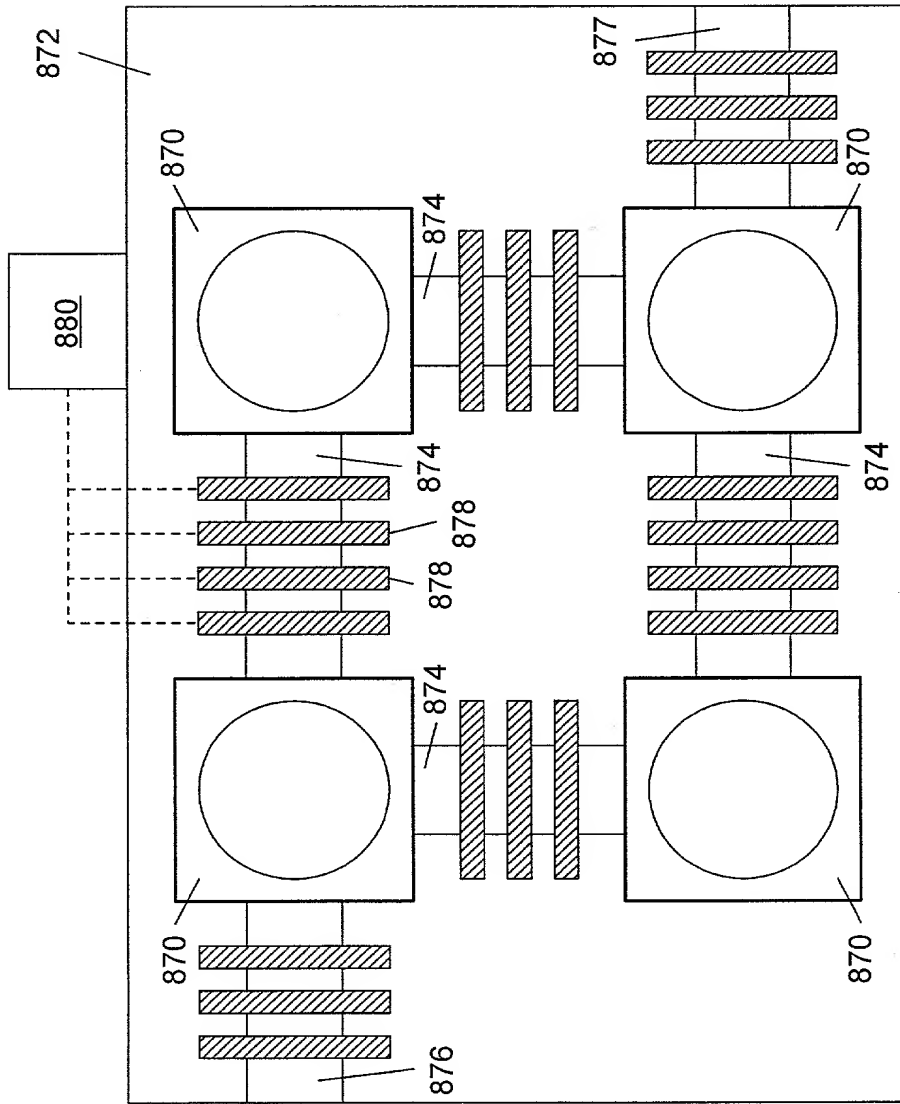


FIG. 36

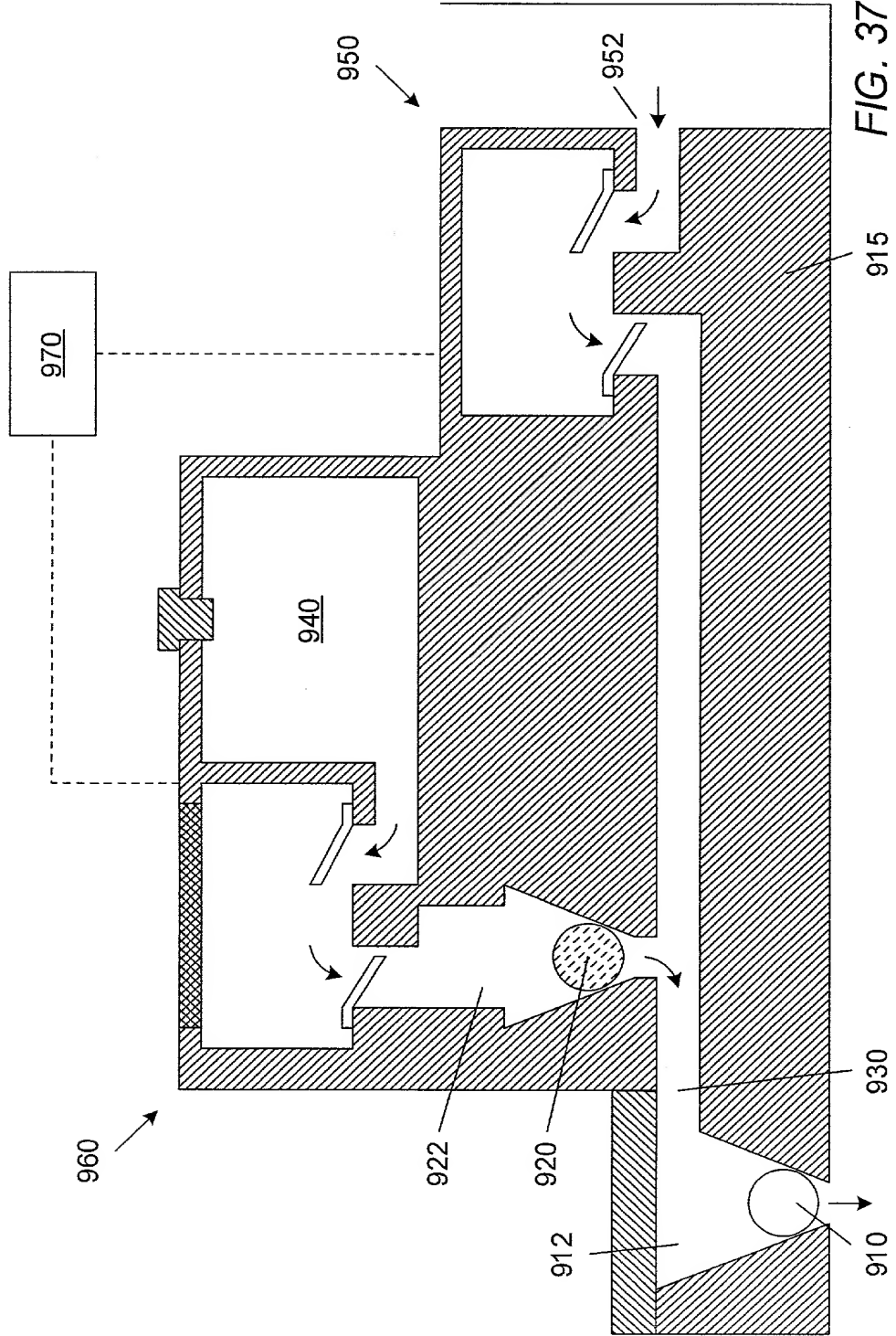


FIG. 37

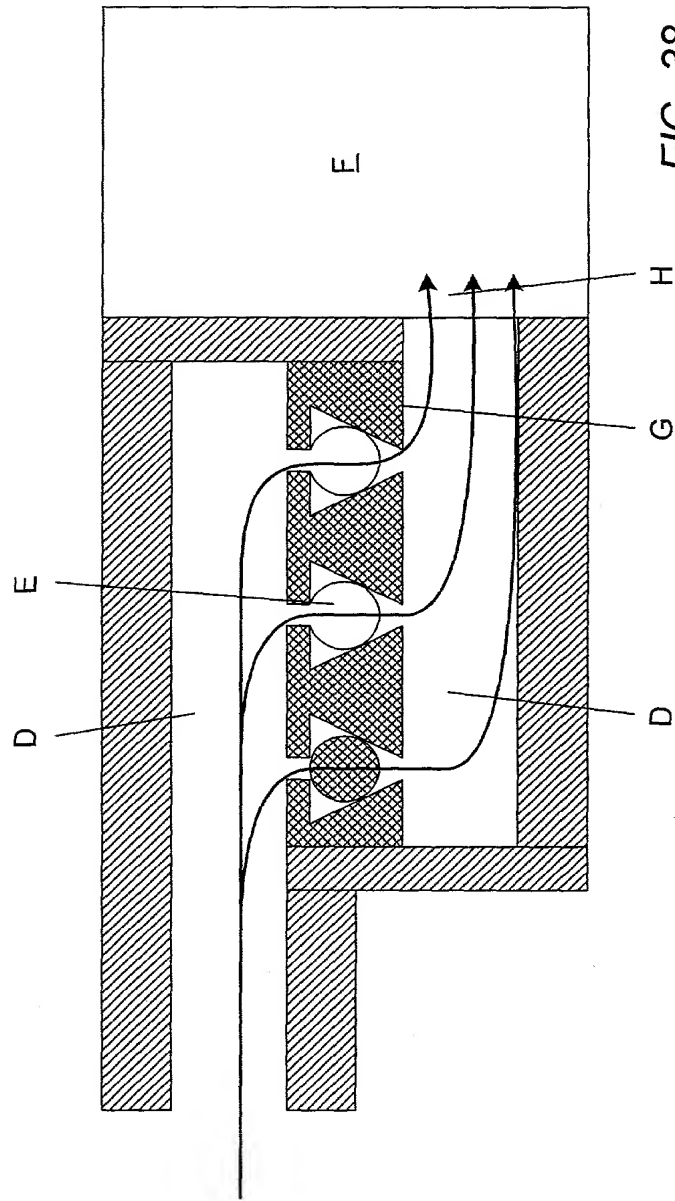


FIG. 38

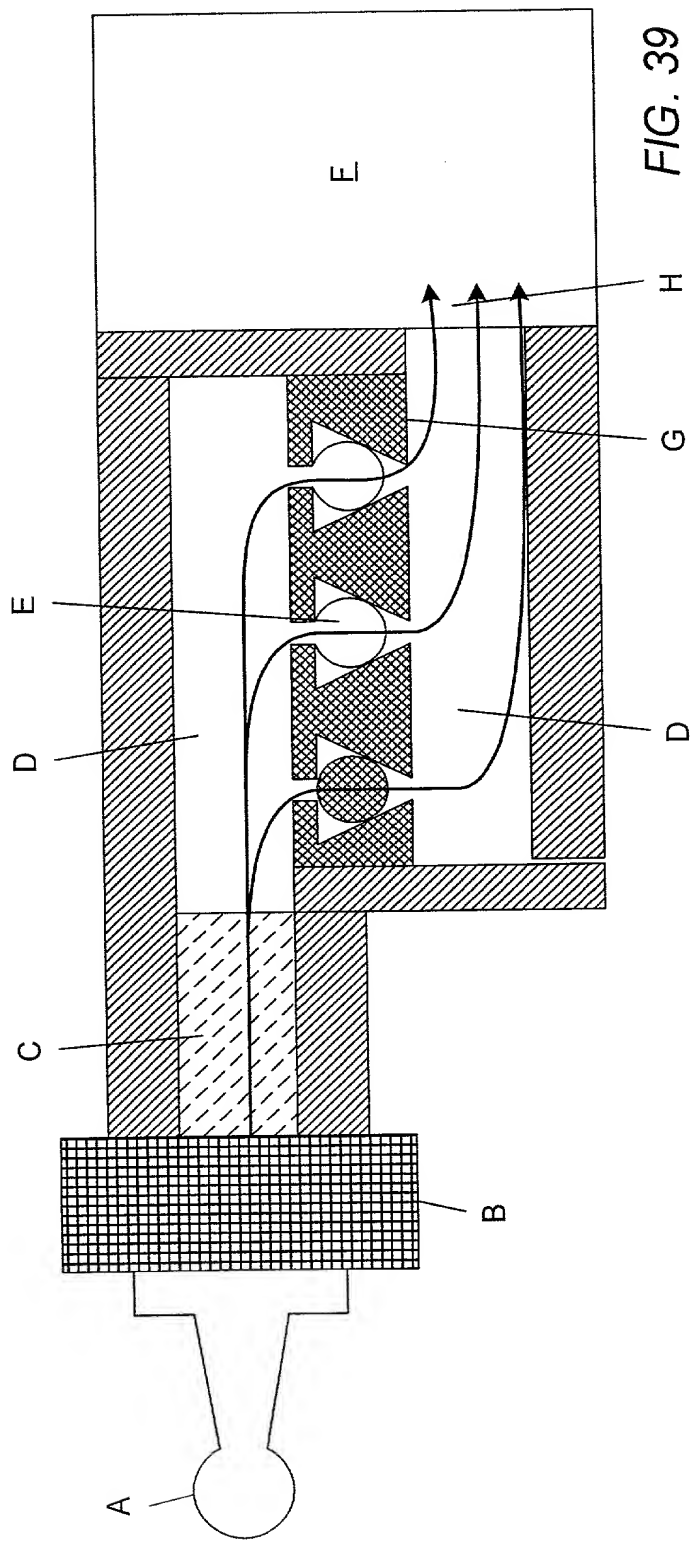


FIG. 39

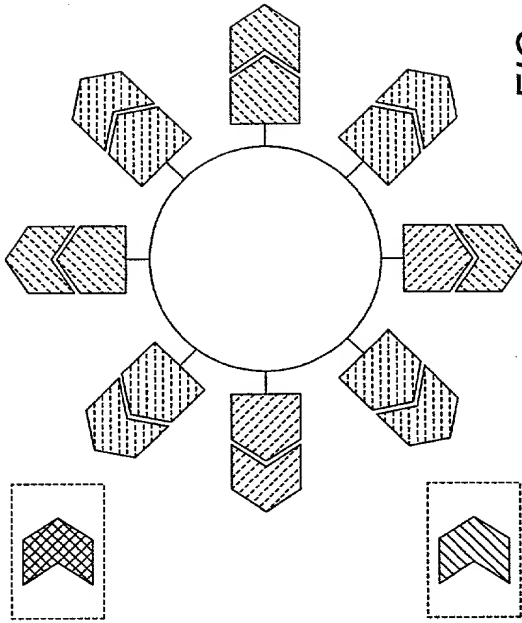


FIG. 40B

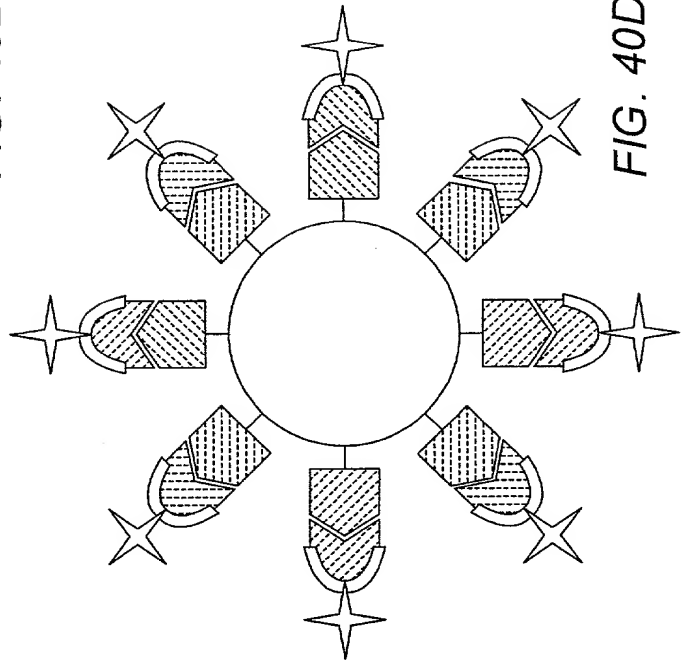


FIG. 40D

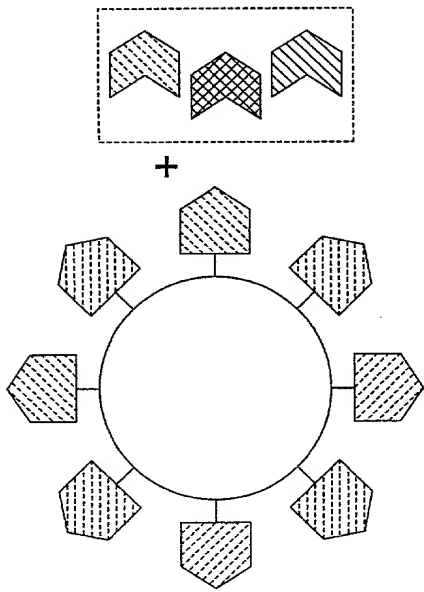


FIG. 40A

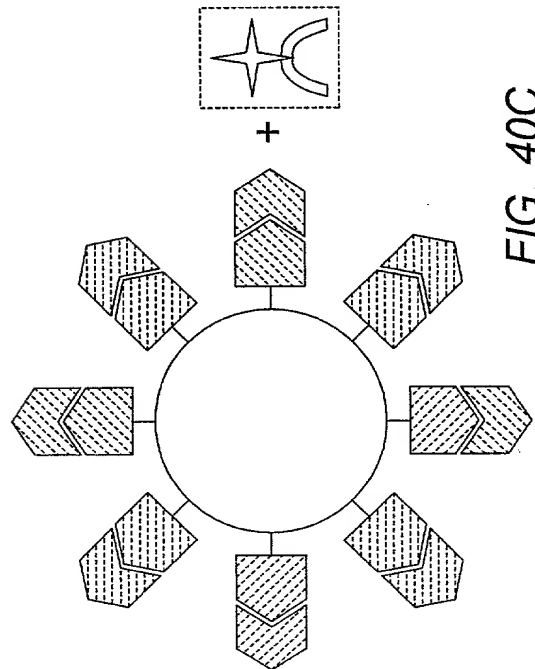


FIG. 40C

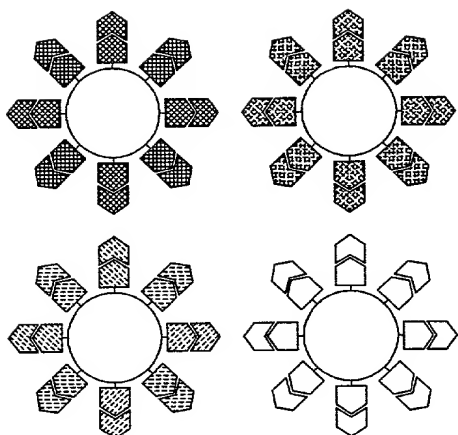


FIG. 41 A

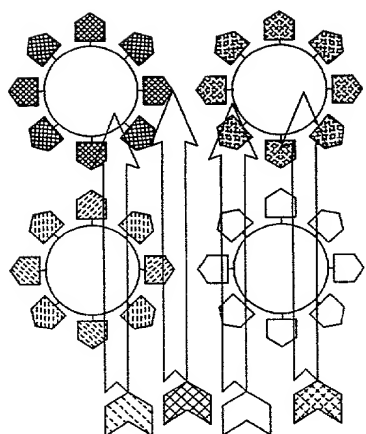


FIG. 41 B

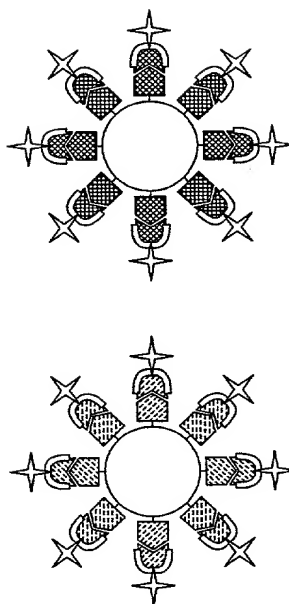


FIG. 41 C

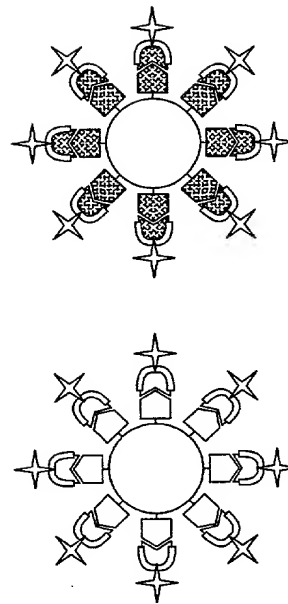


FIG. 41 D

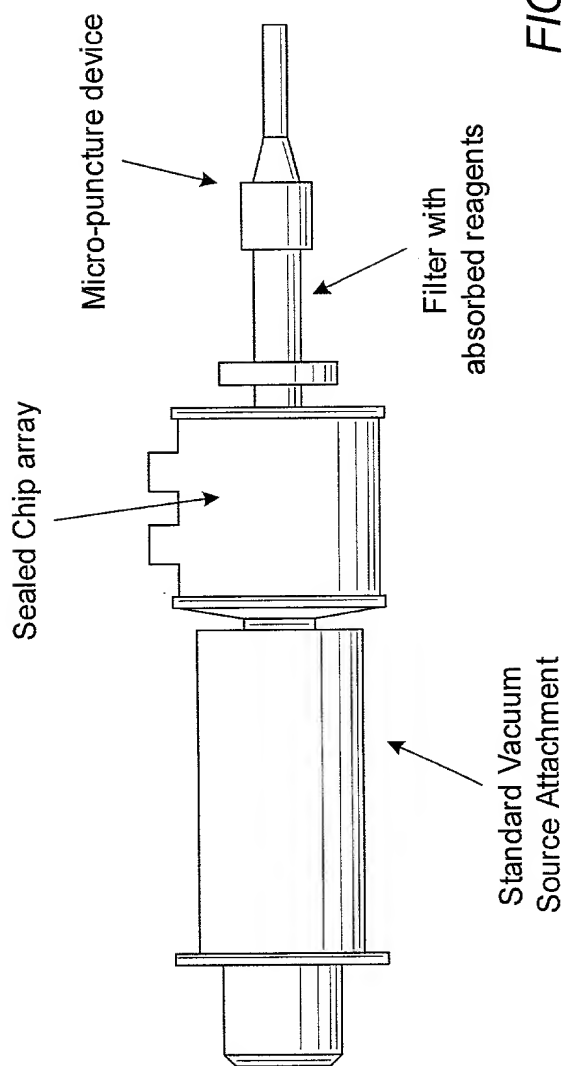


FIG. 42

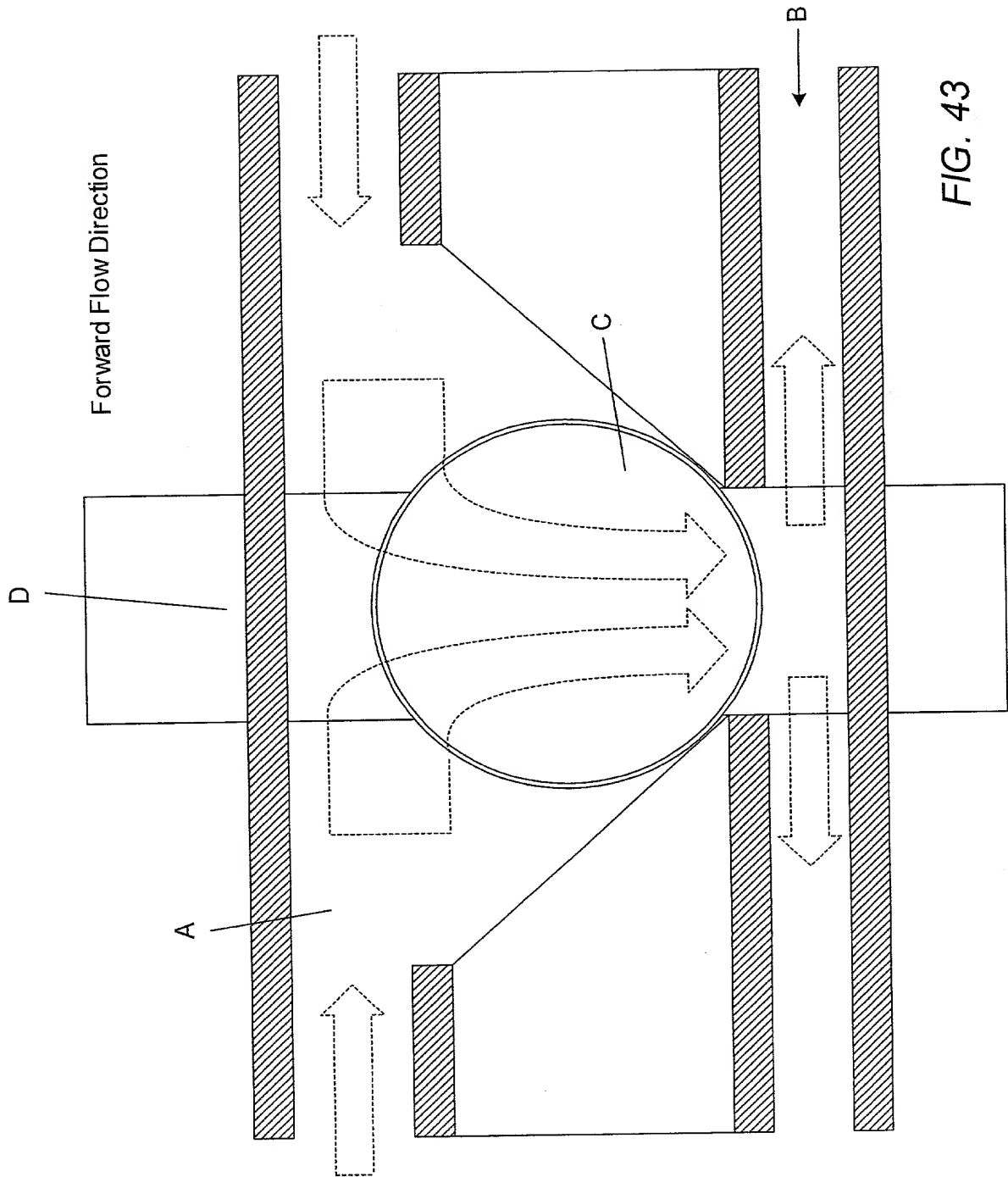


FIG. 43

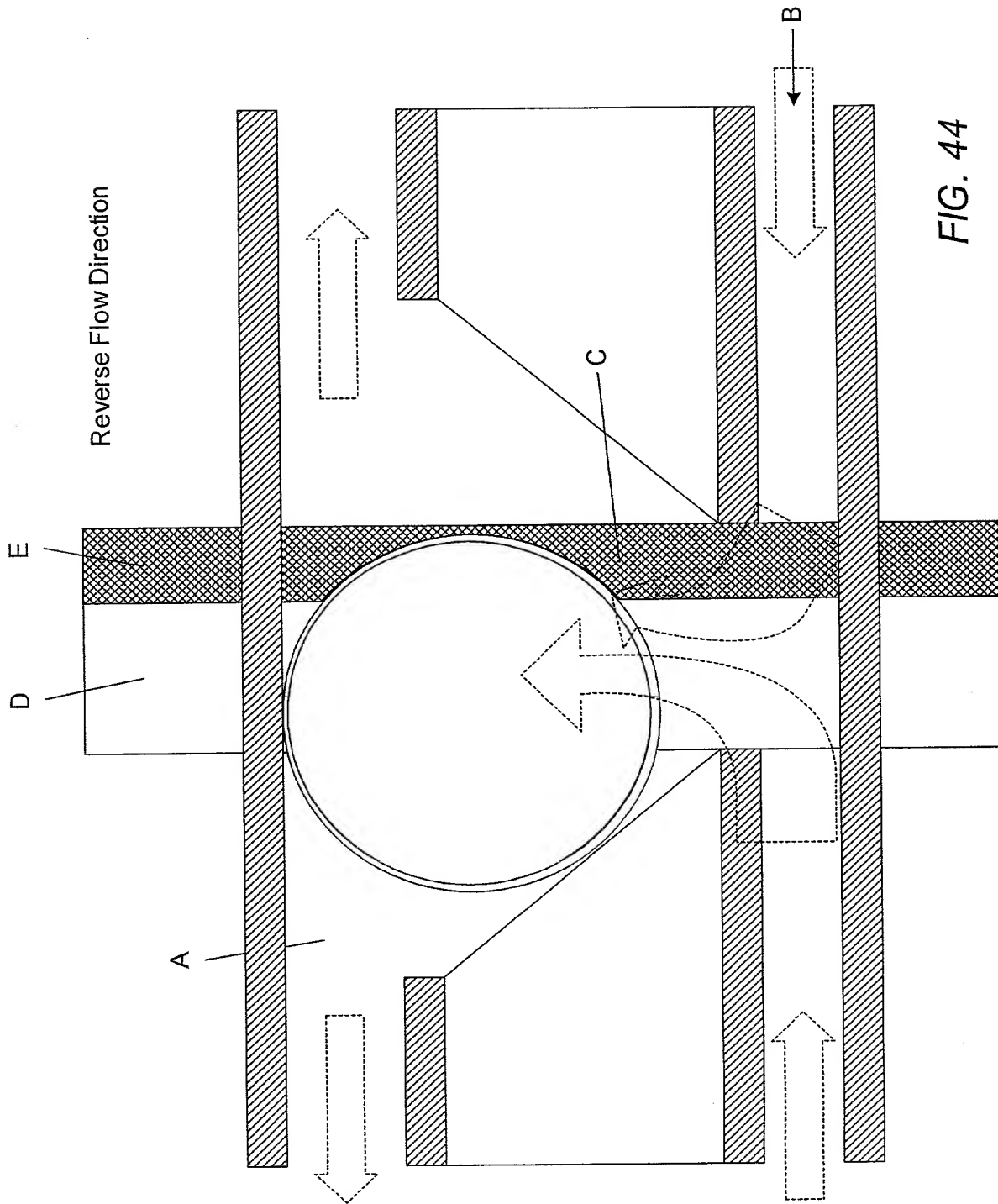


FIG. 44

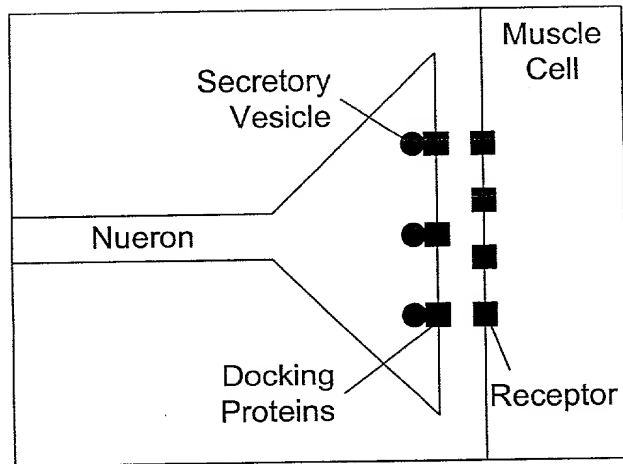


FIG. 45A

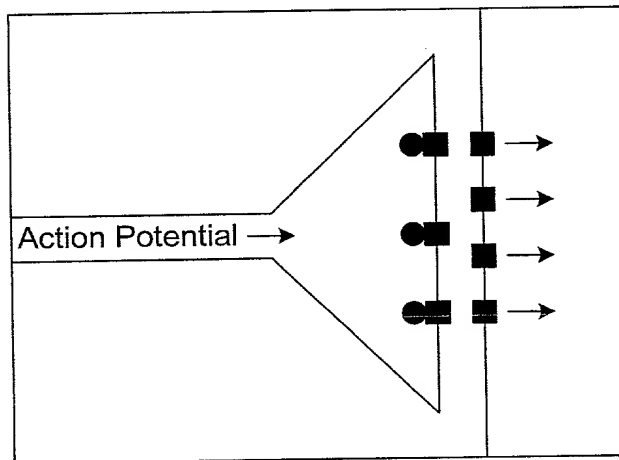


FIG. 45B

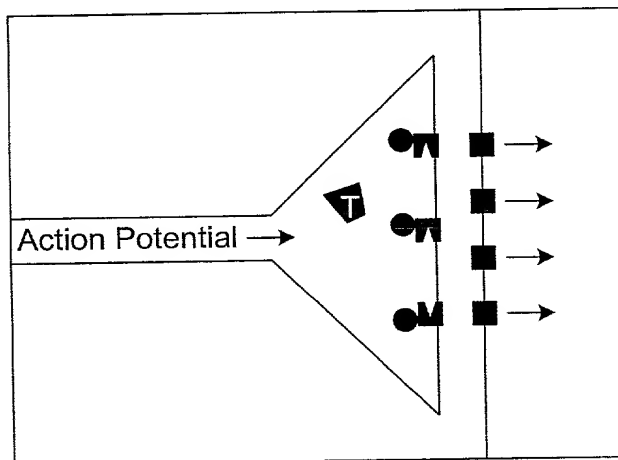


FIG. 45C

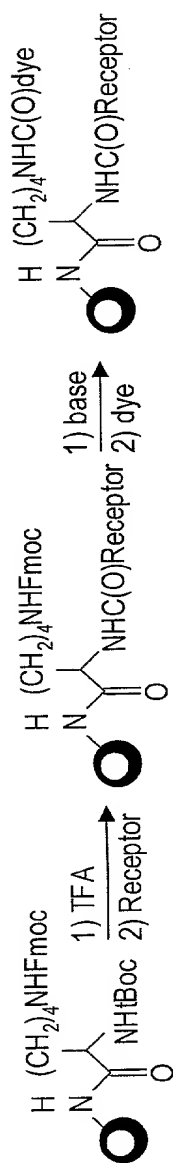


FIG. 45D

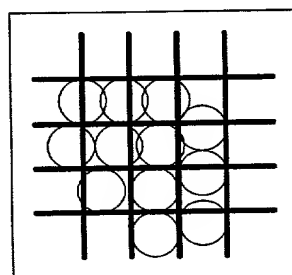


FIG. 46A

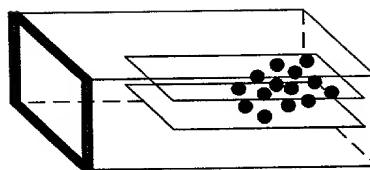


FIG. 46B

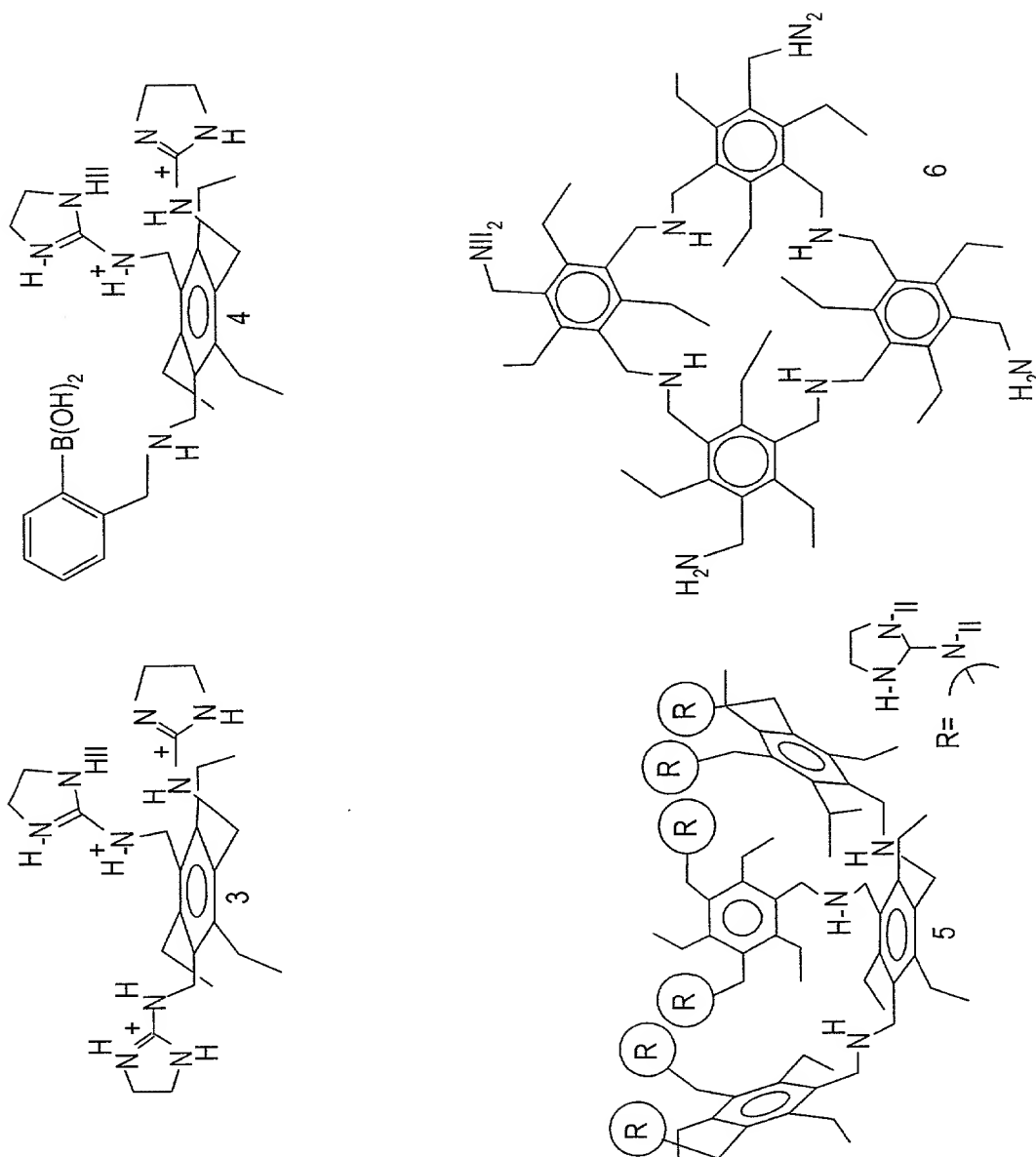


FIG. 47

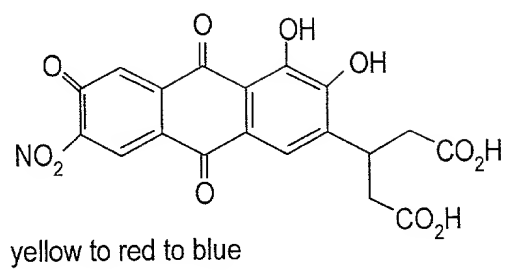
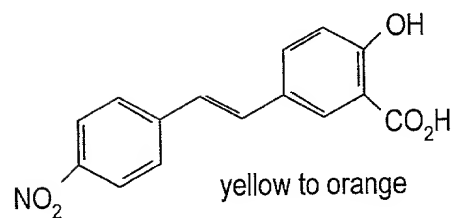
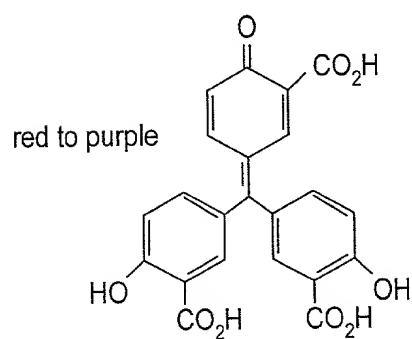
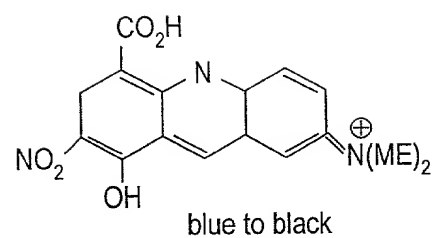
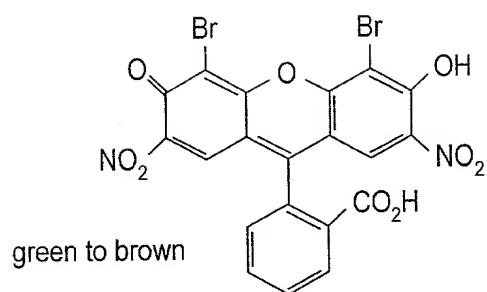
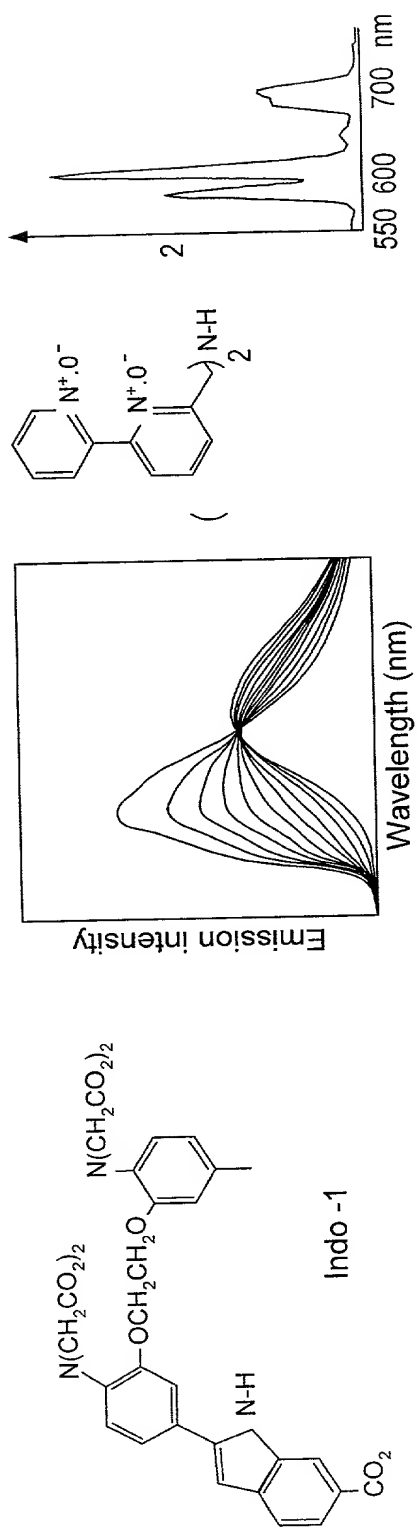
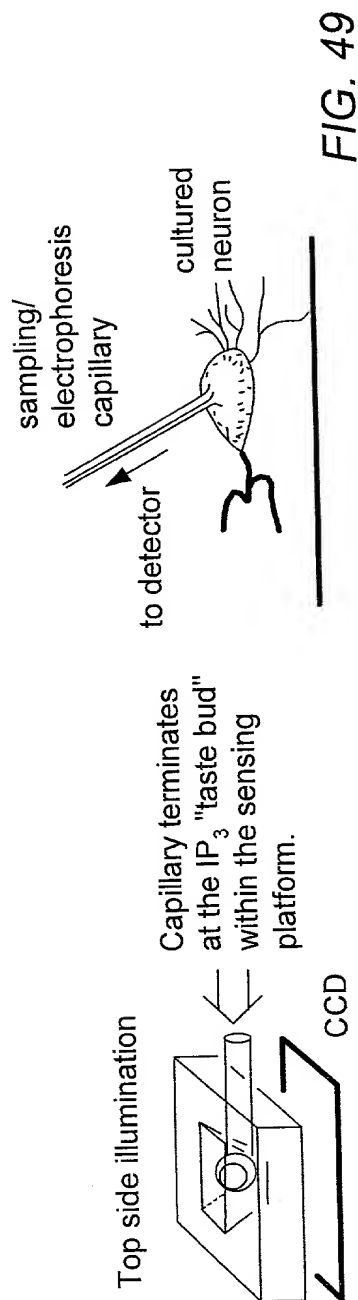


FIG. 48



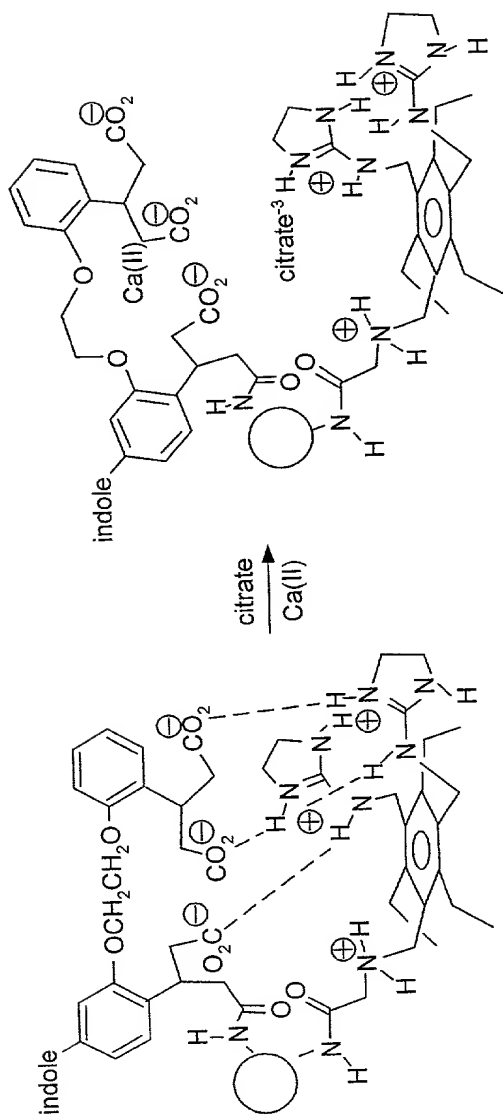


FIG. 51

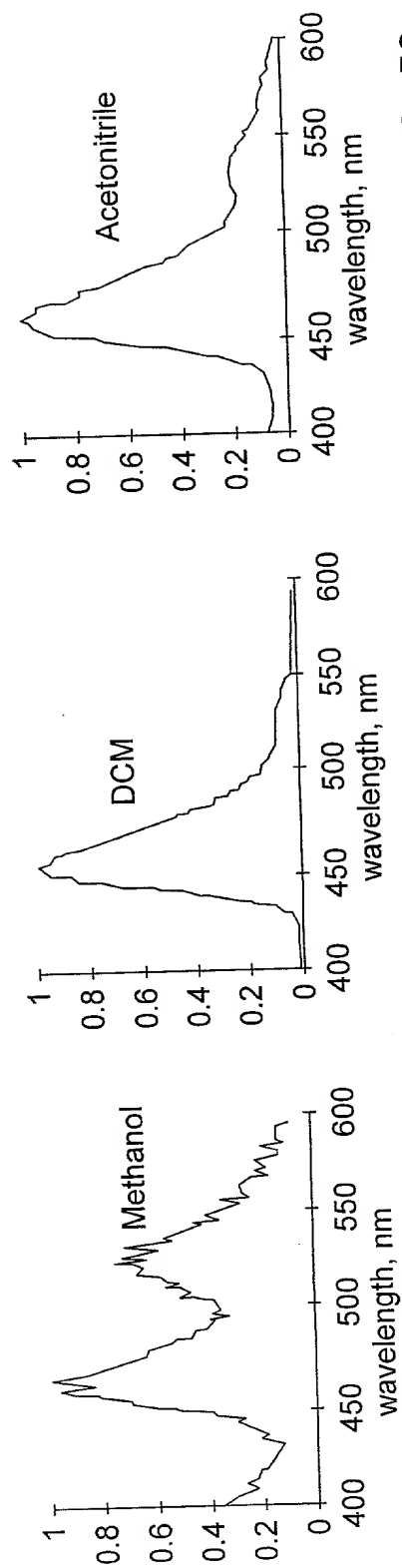
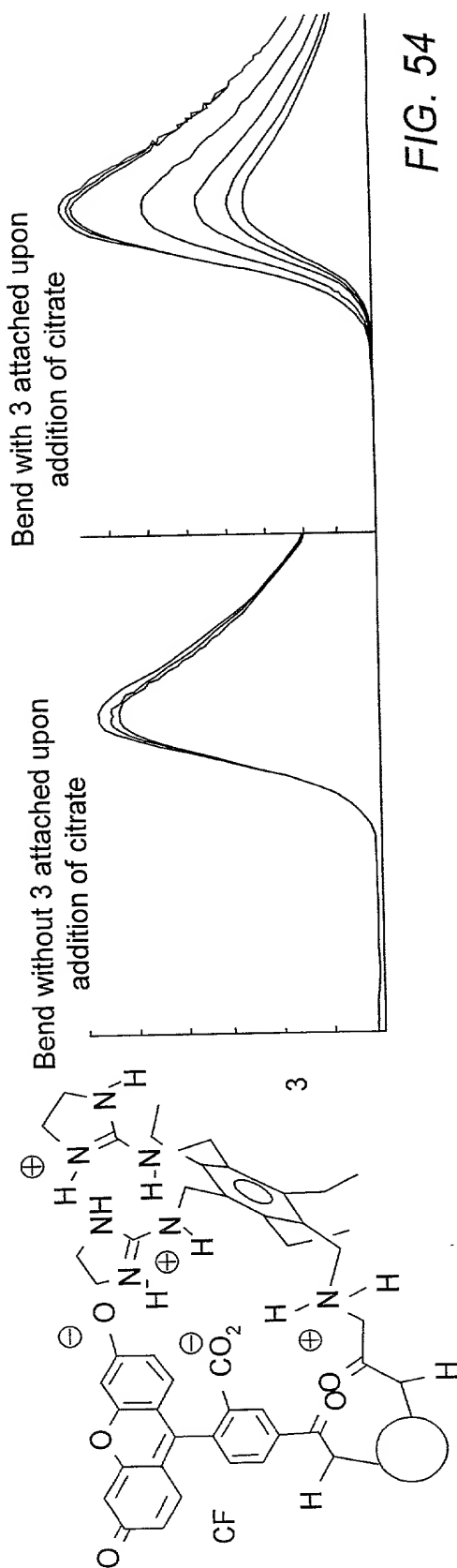
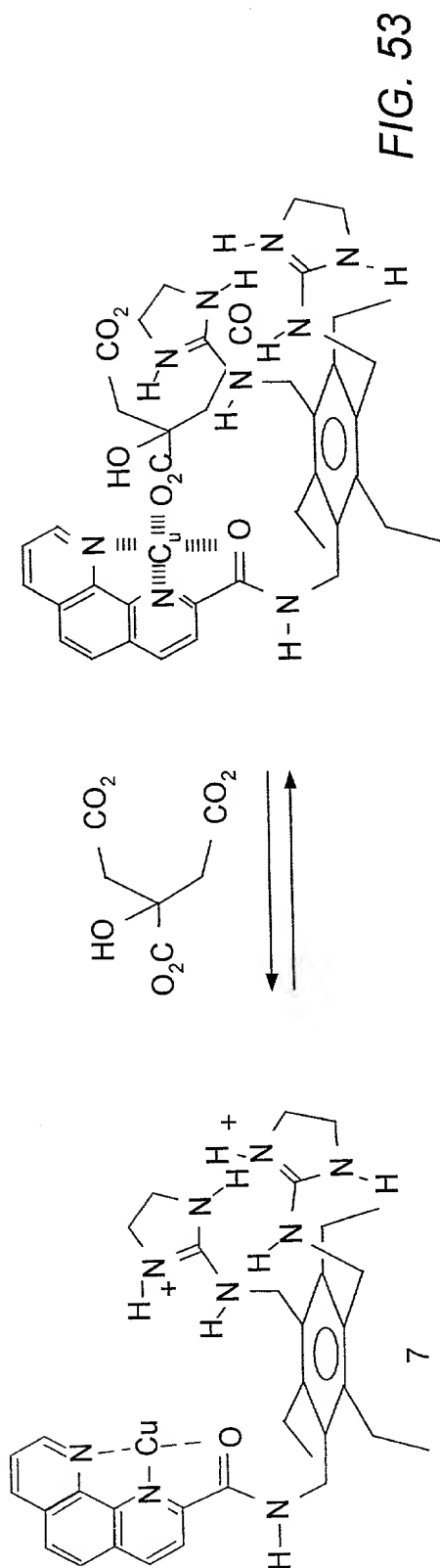


FIG. 52

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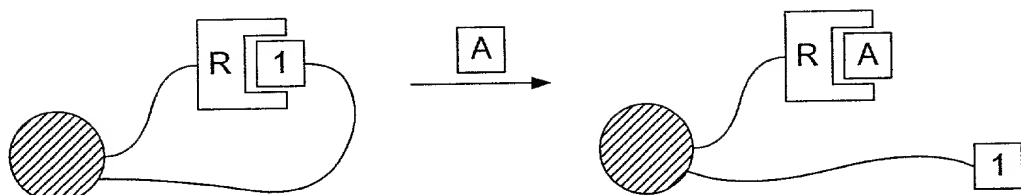


FIG. 55A

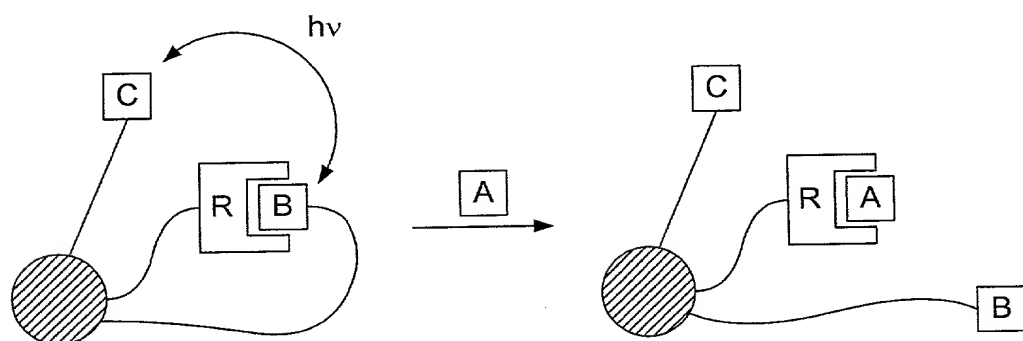


FIG. 55B

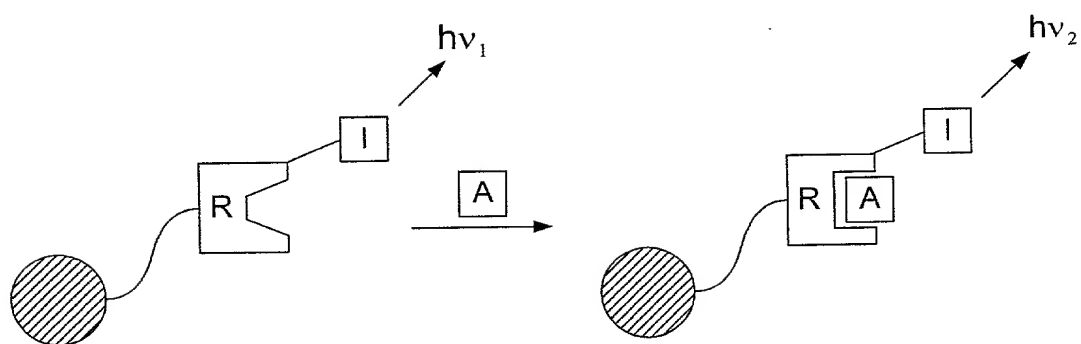


FIG. 55C

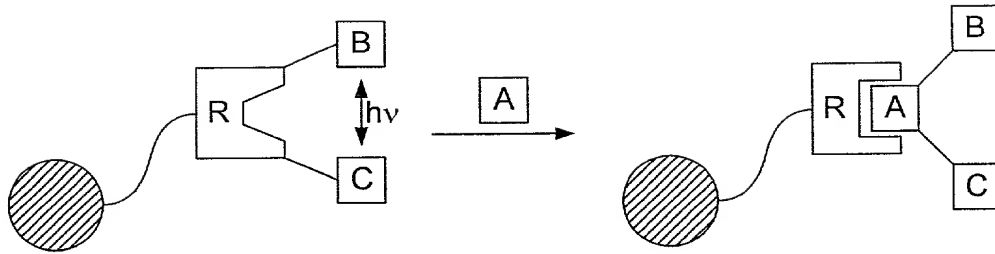


FIG. 55D

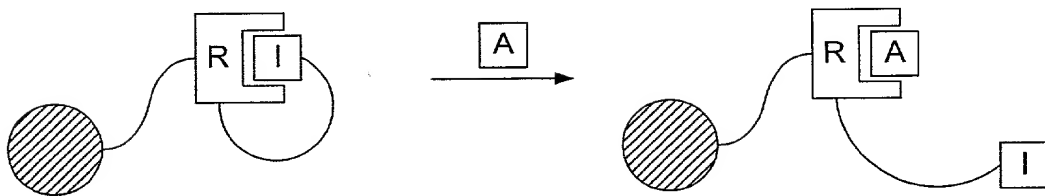


FIG. 55E

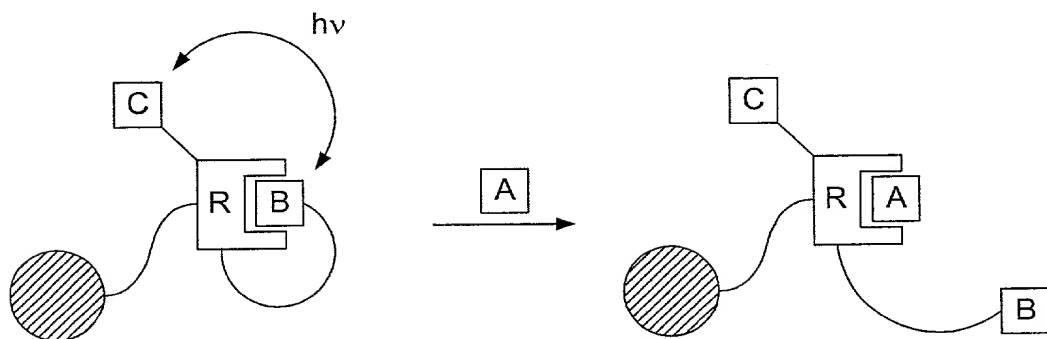


FIG. 55F

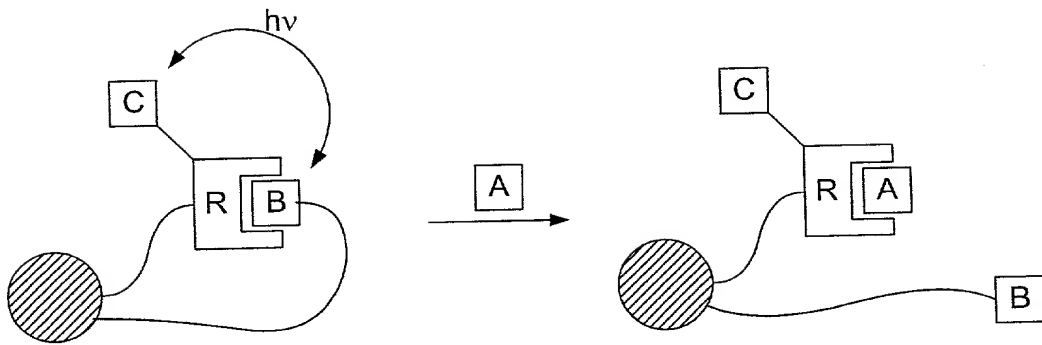


FIG. 55G

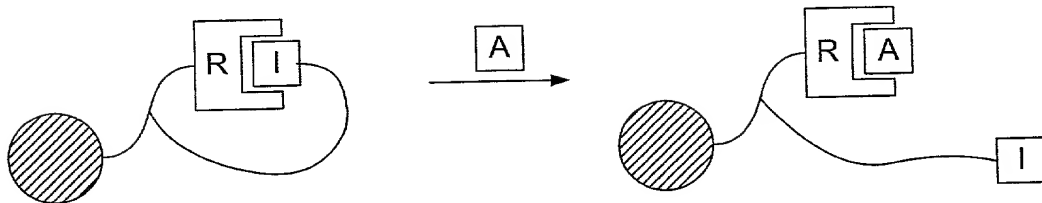


FIG. 55H

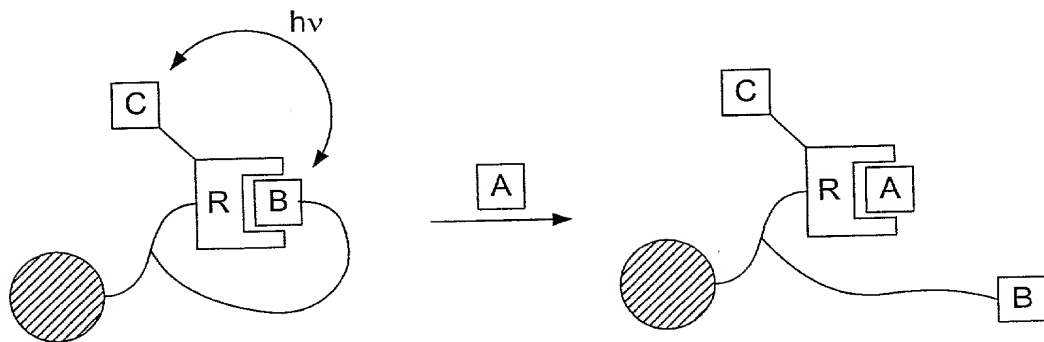
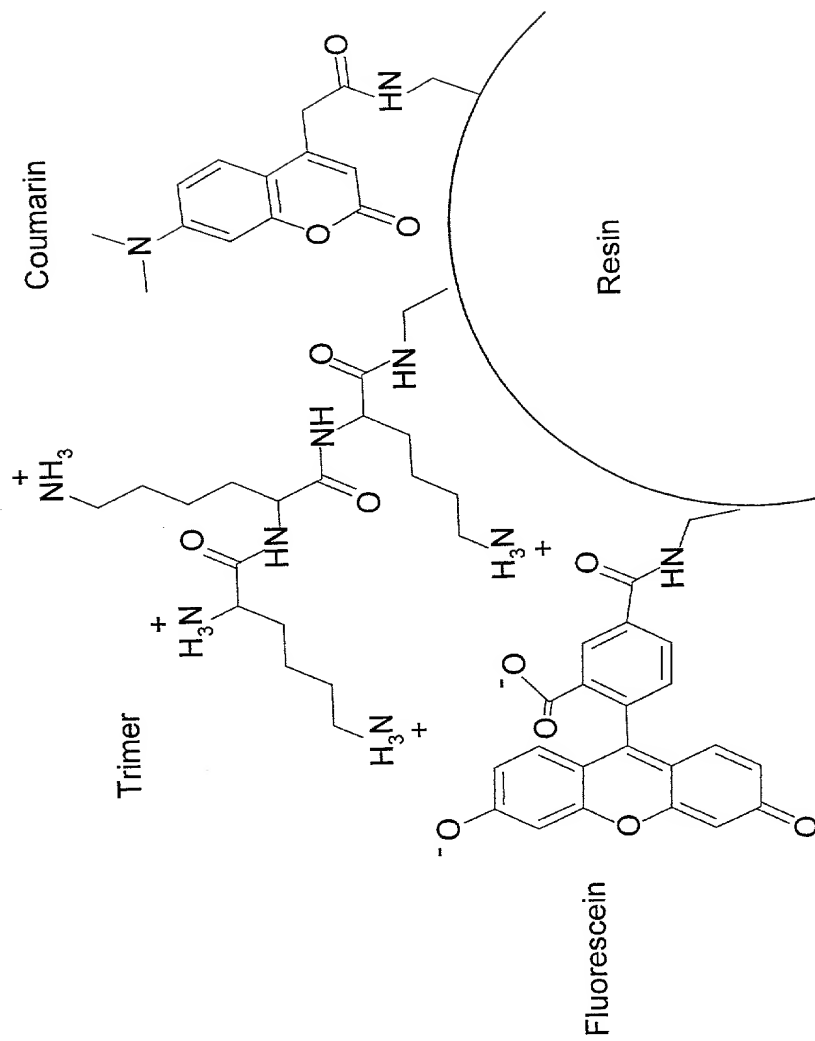


FIG. 55I



1

FIG. 56

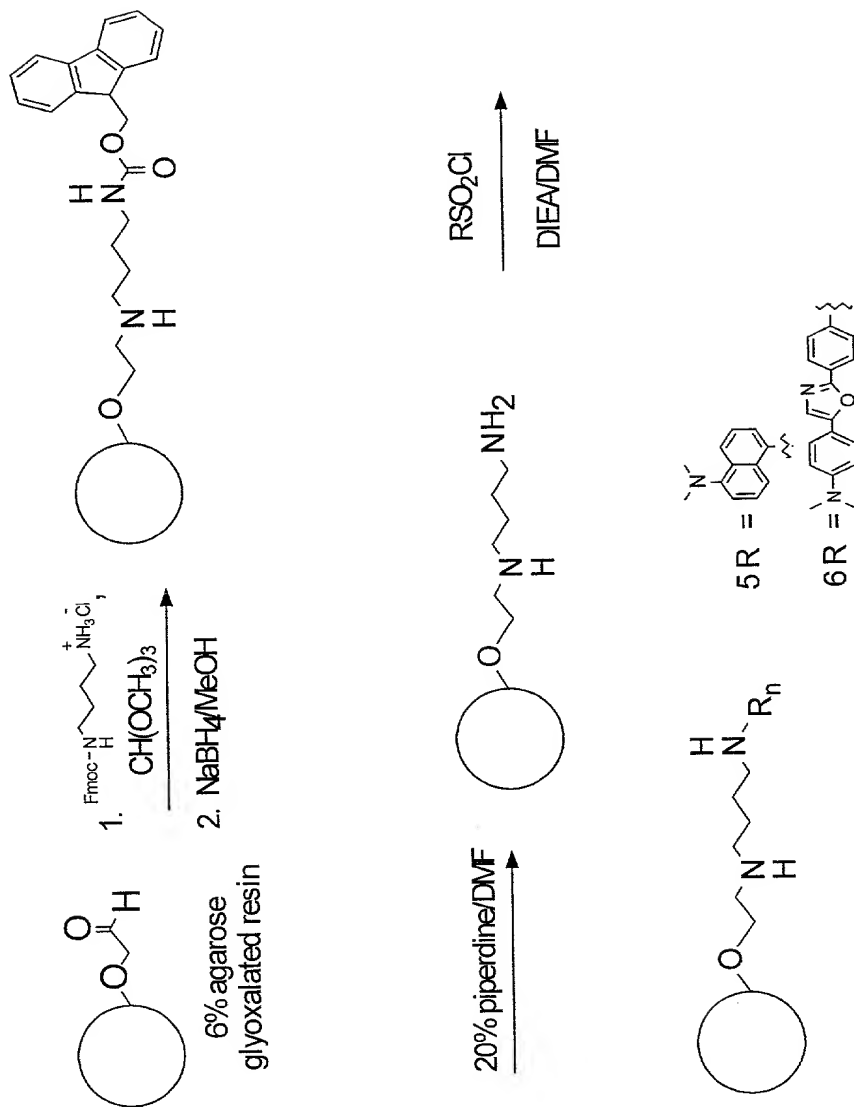


FIG. 57

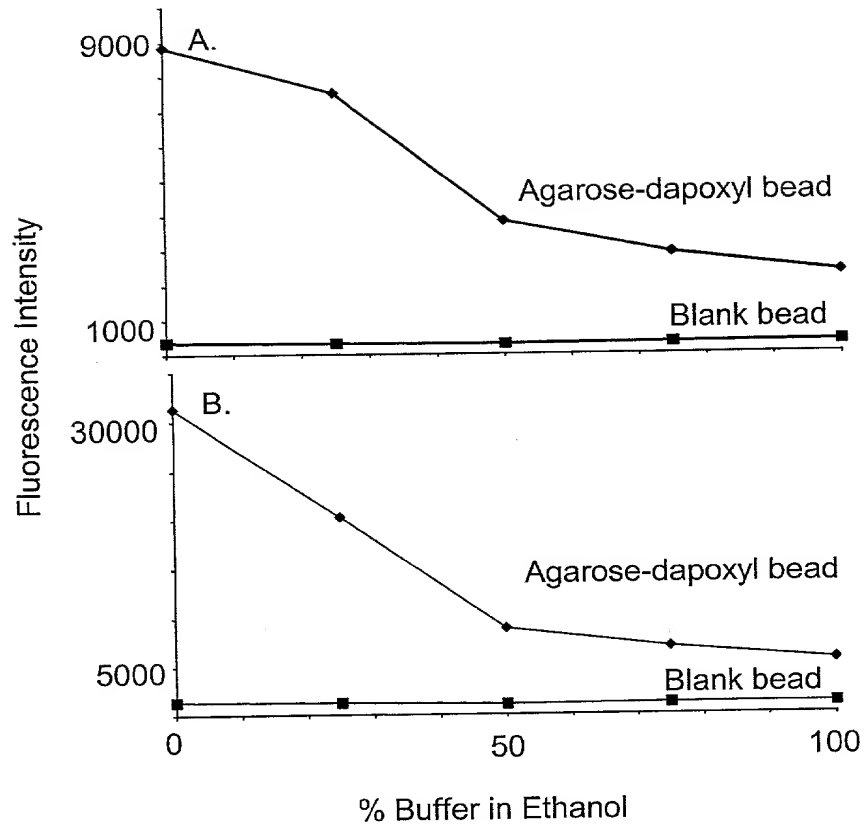


FIG. 58

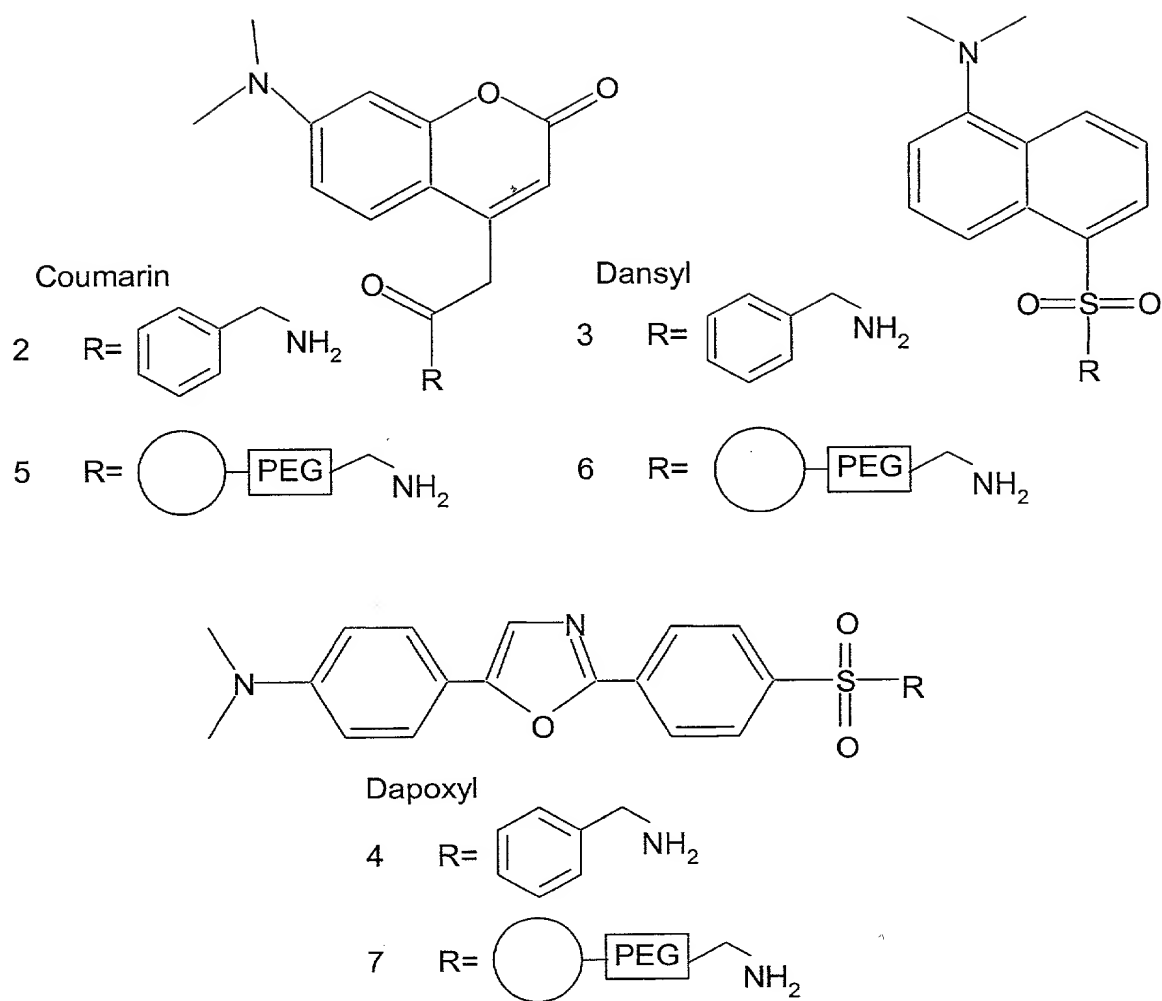


FIG. 59

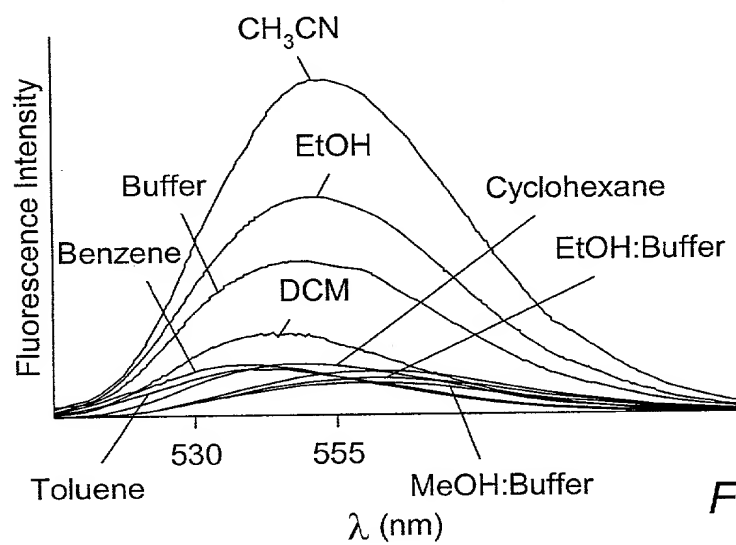
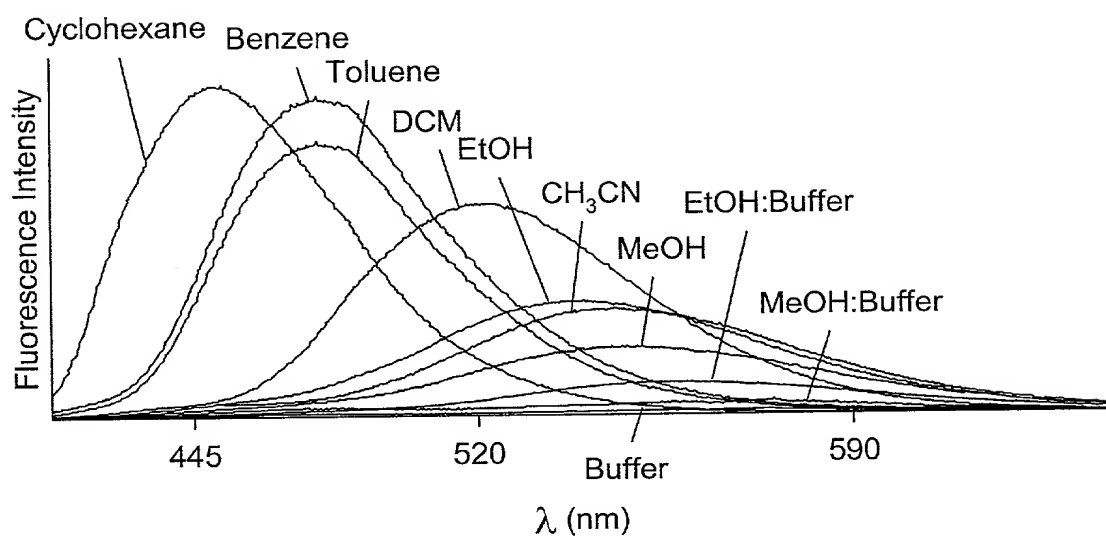
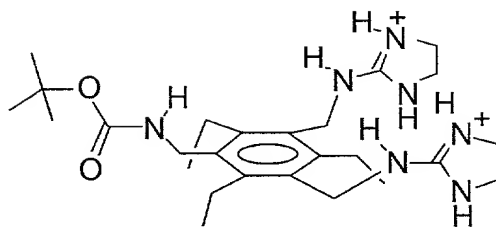


FIG. 60



1

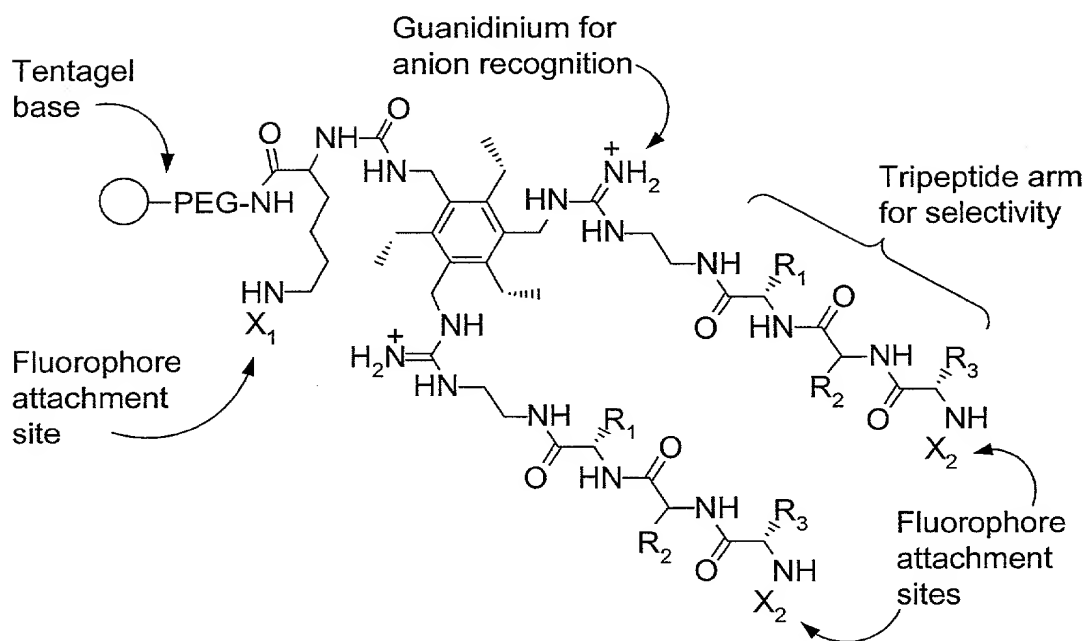
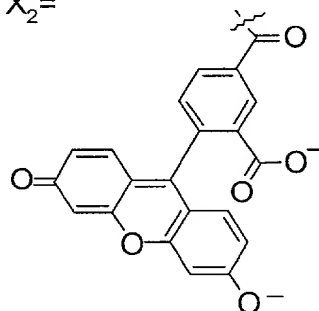
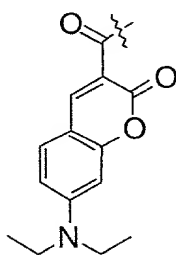
2: $X_1 = X_2 = H$ 3: $X_1 =$ $X_2 =$ 

FIG. 61

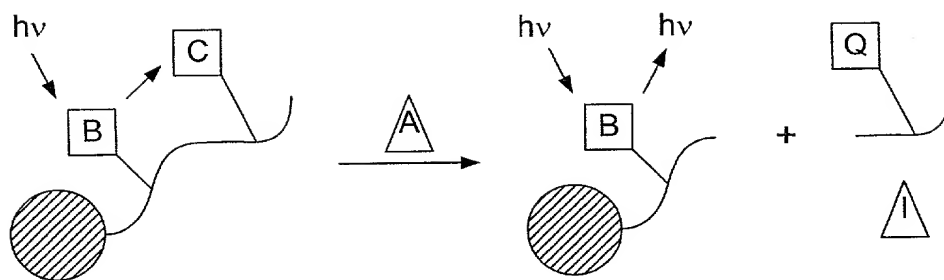


FIG. 62A

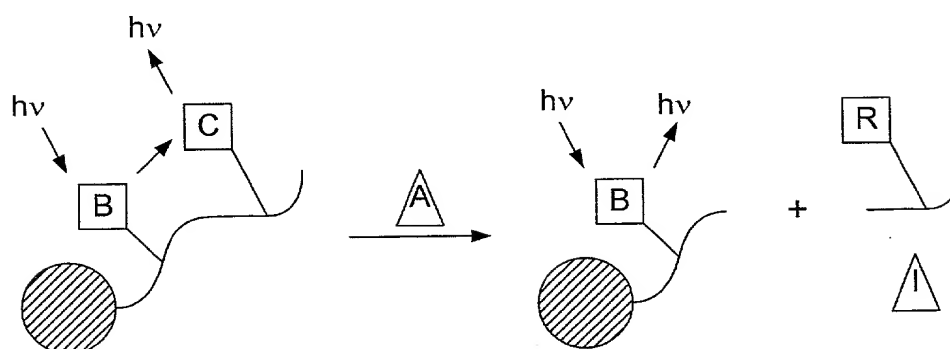


FIG. 62B

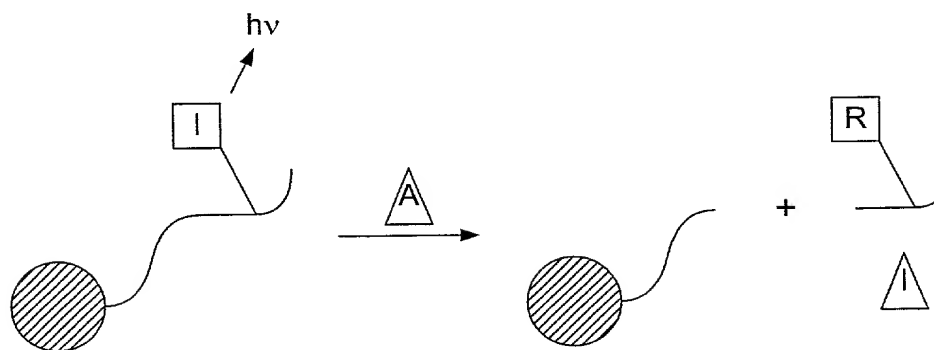


FIG. 62C

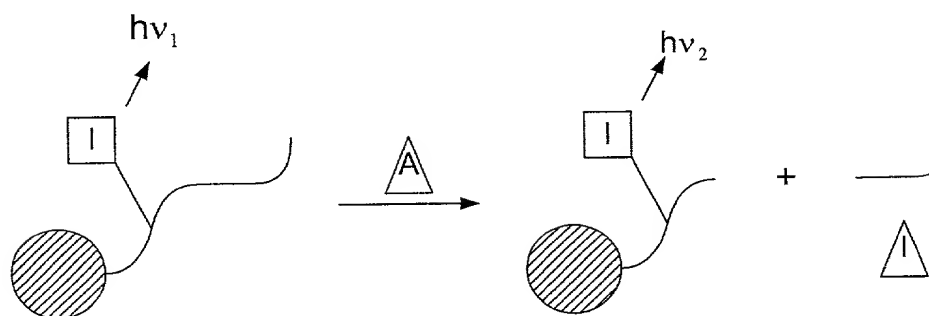


FIG. 62D

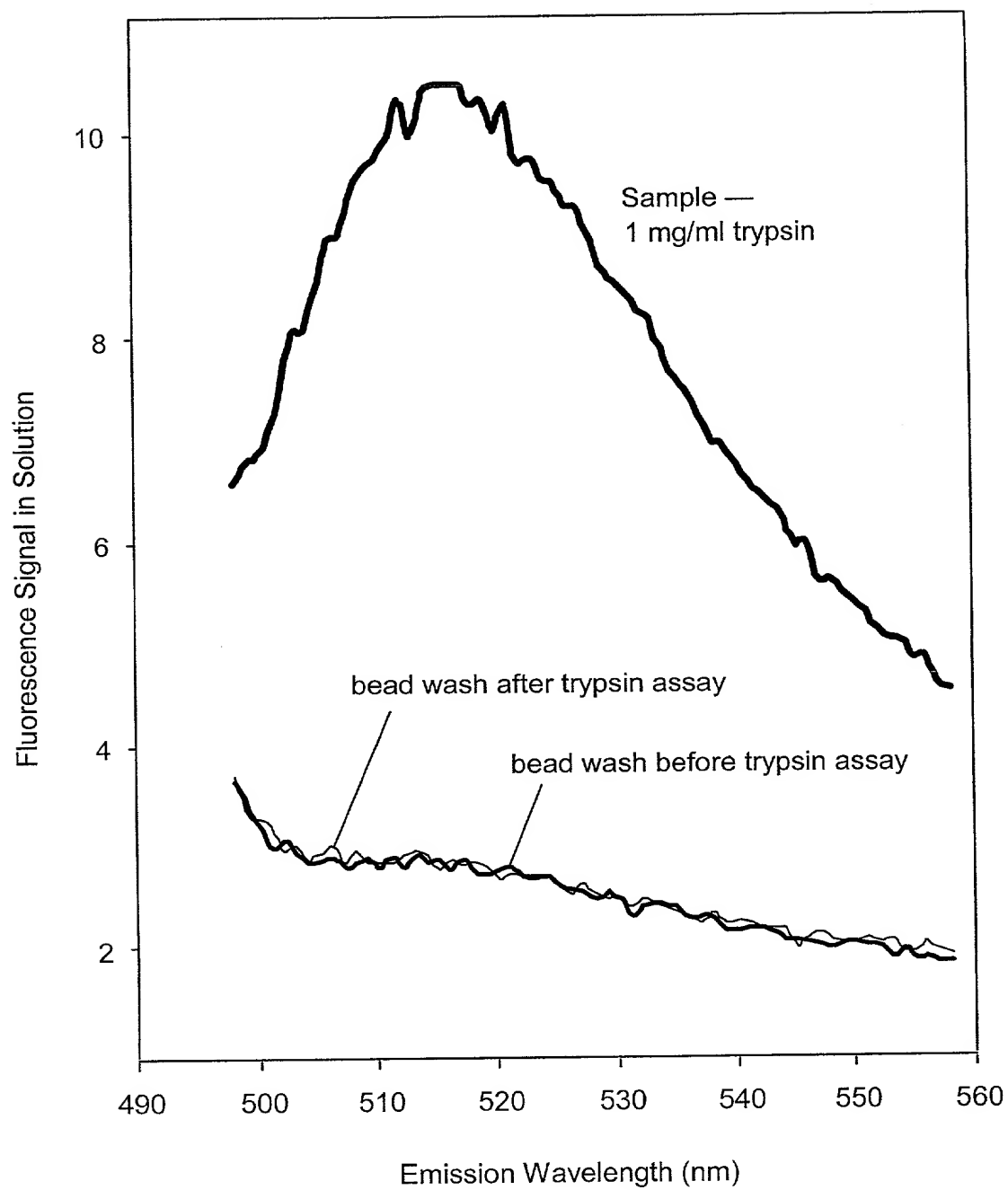


FIG. 63

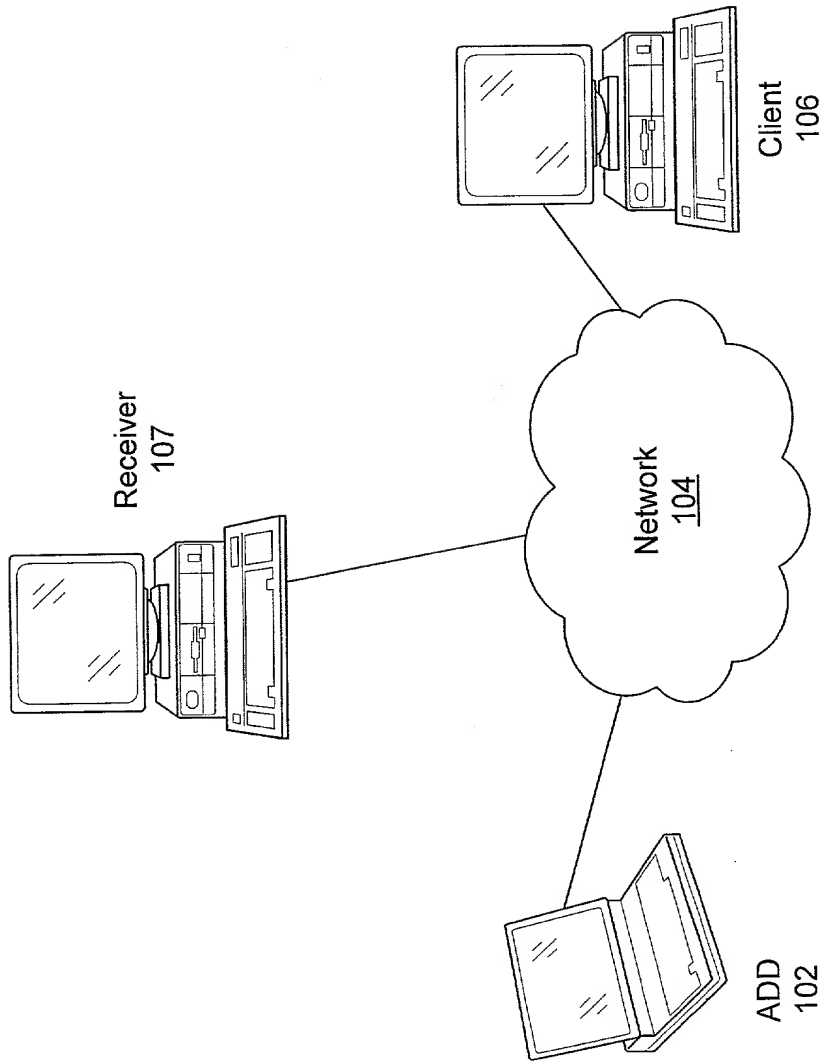


FIG. 64

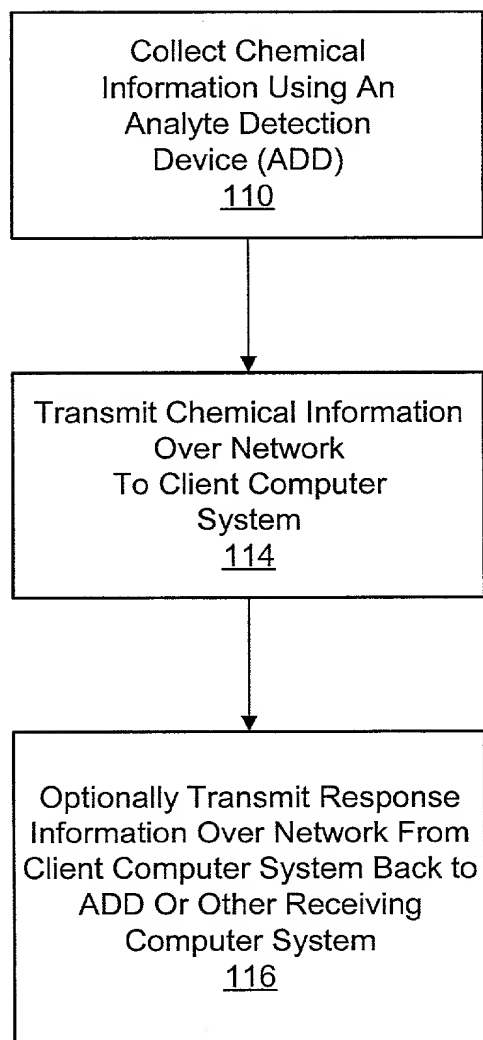


FIG. 65

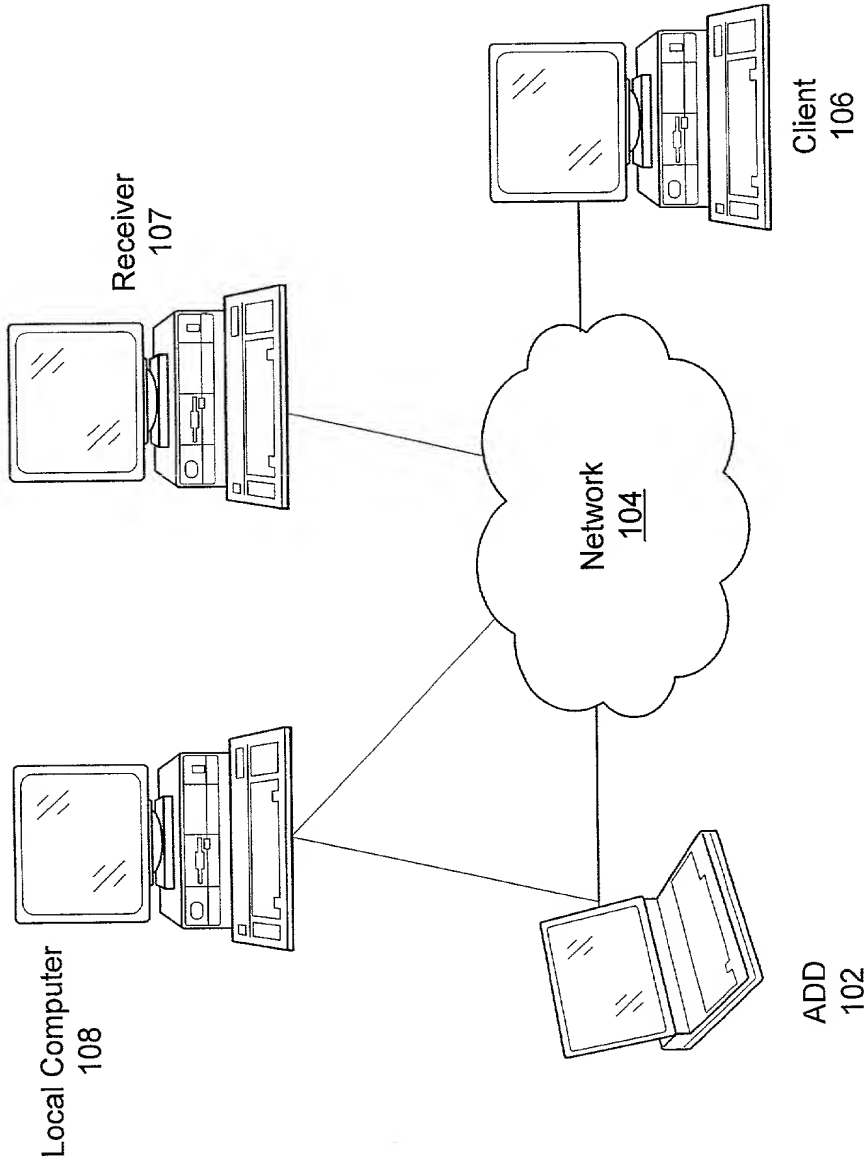


FIG. 66

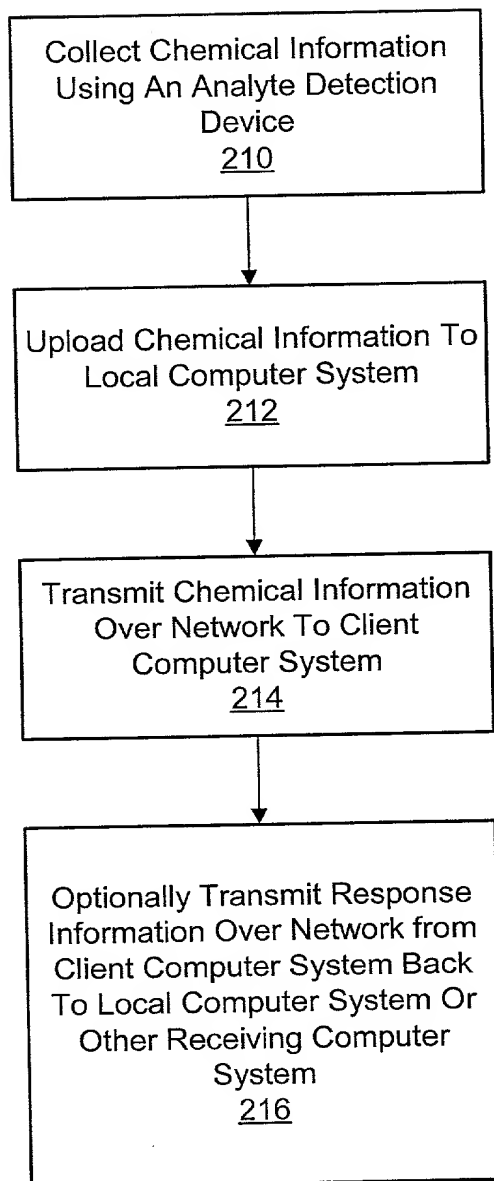


FIG. 67

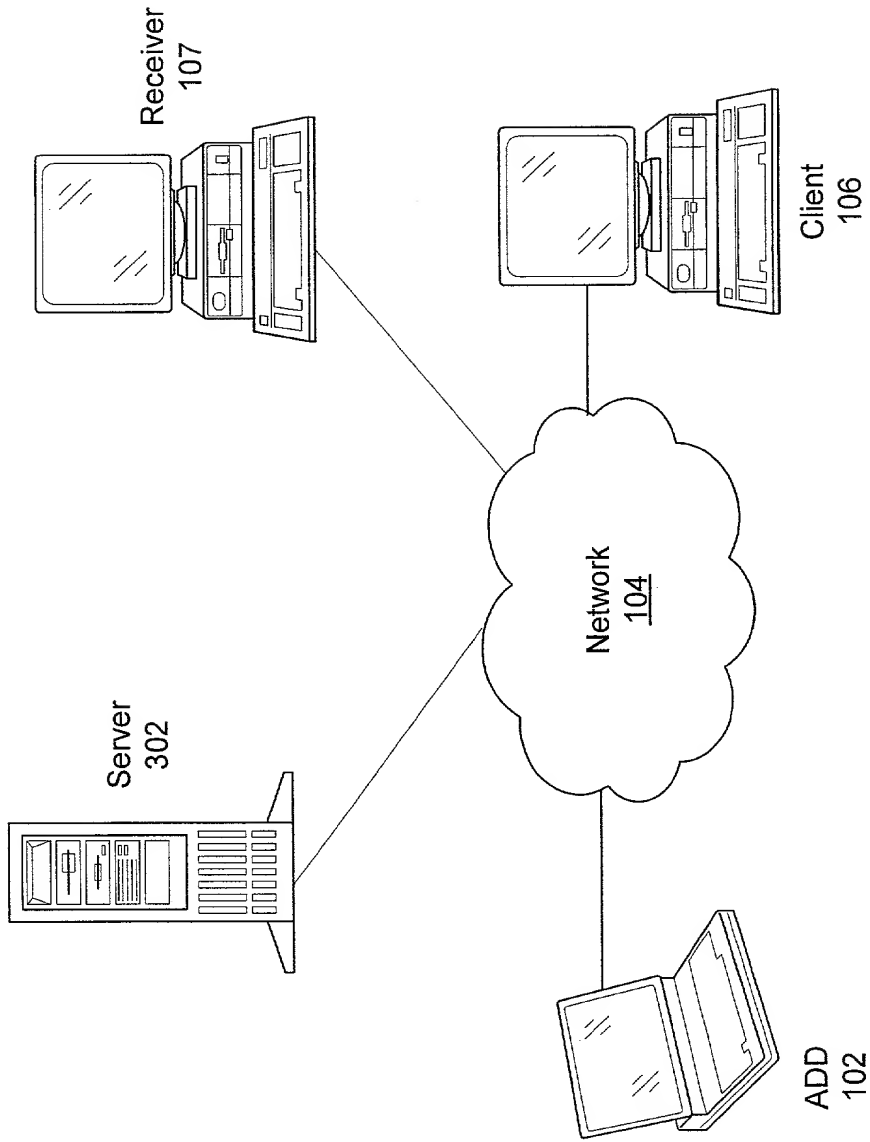


FIG. 68

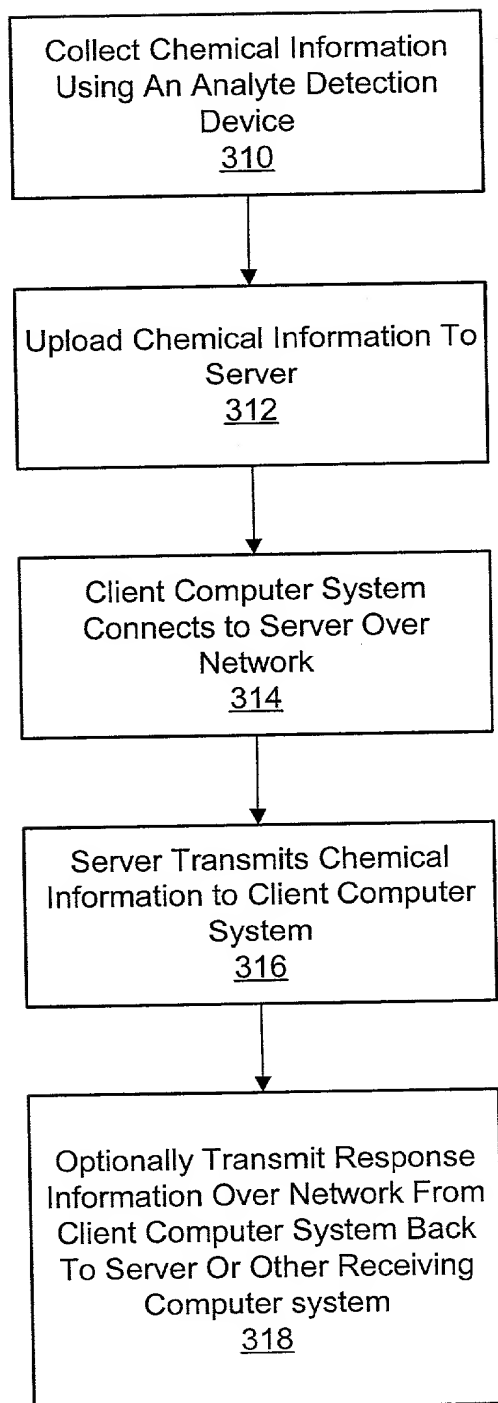


FIG. 69

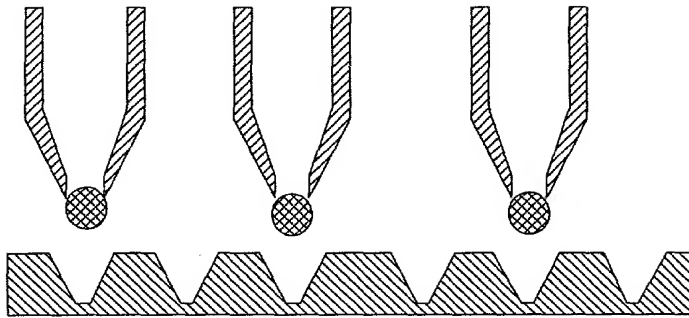


FIG. 70A

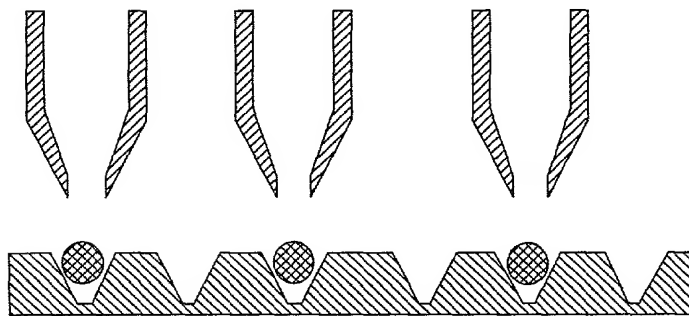


FIG. 70B

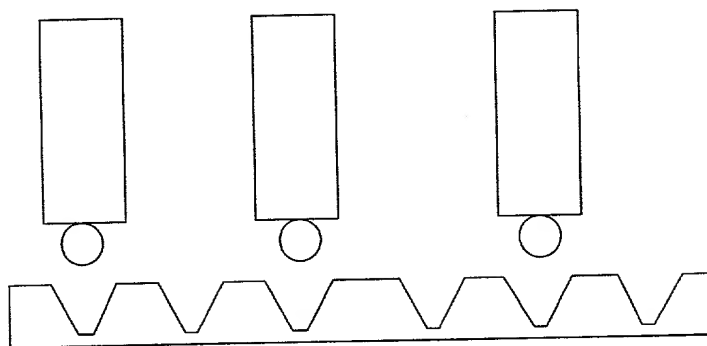


FIG. 71A

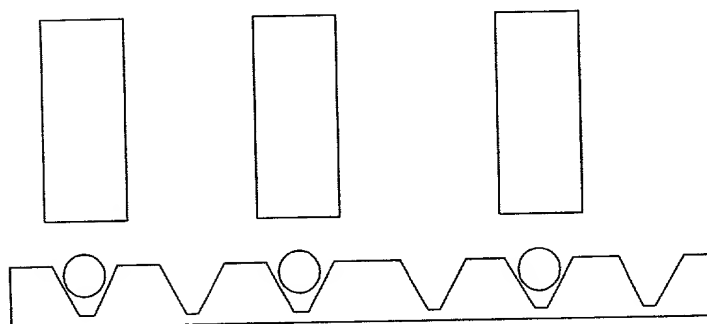


FIG. 71B

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F07E80-04E8260

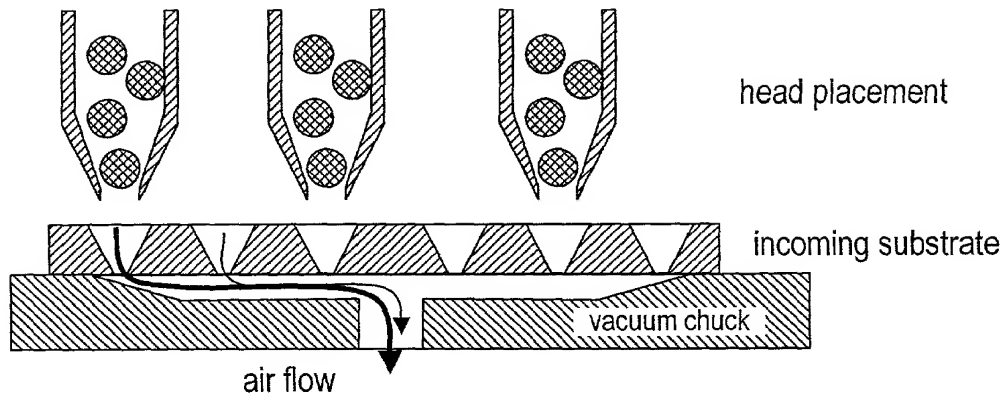


FIG. 72A

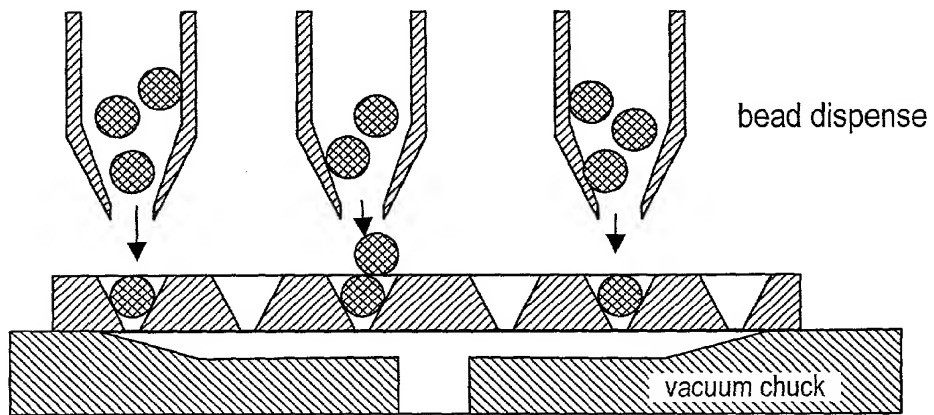


FIG. 72B

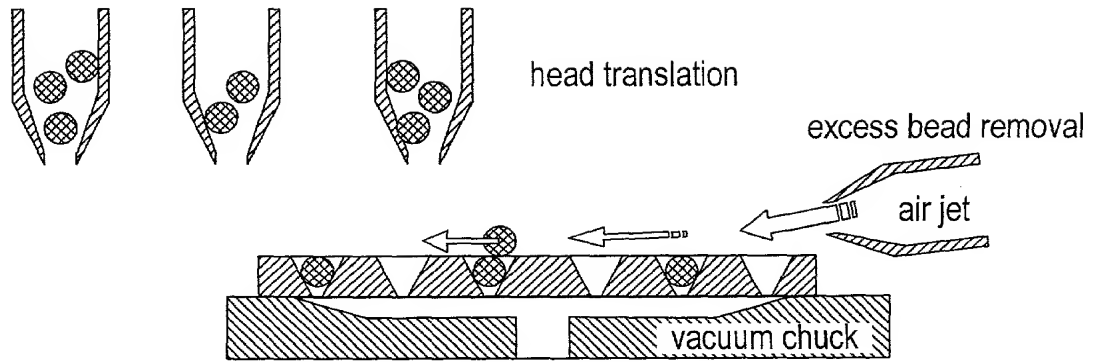


FIG. 72C

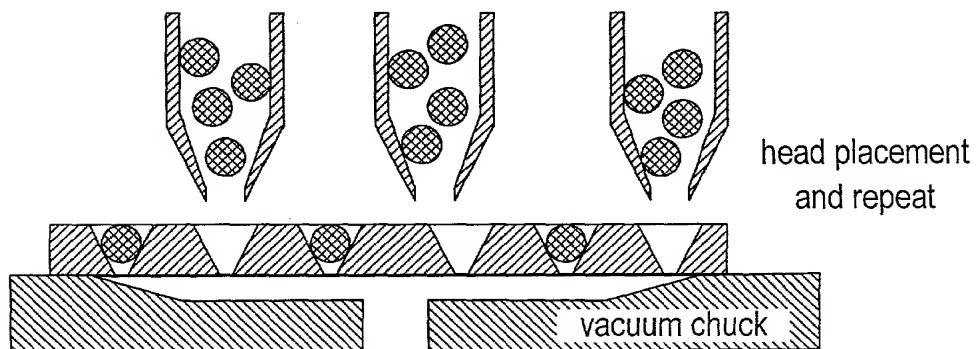


FIG. 72D

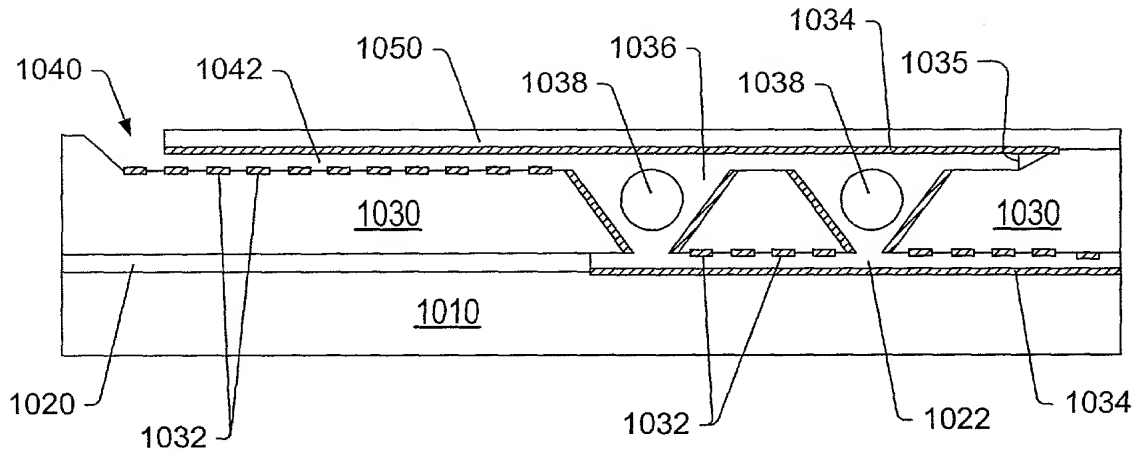


FIG. 73

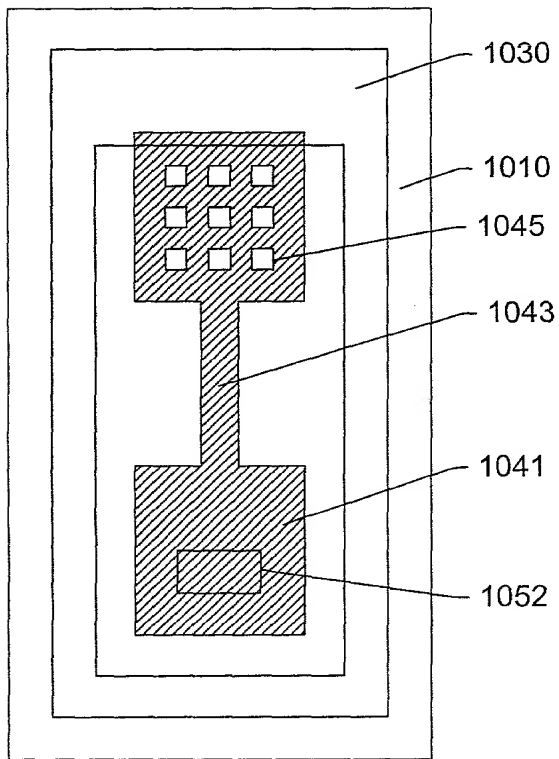


FIG. 74A

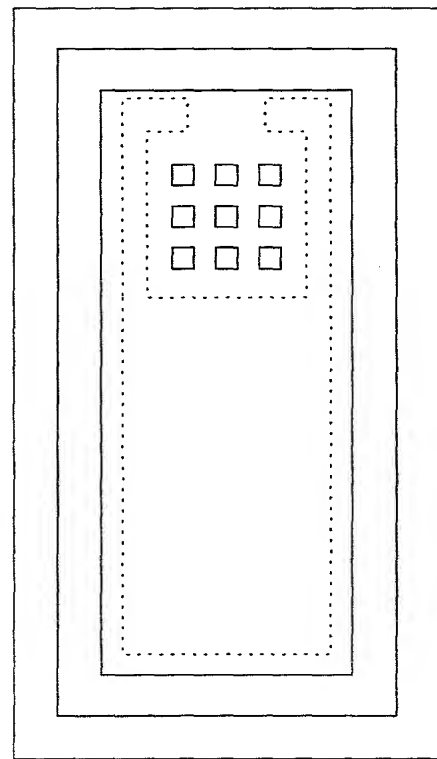


FIG. 74B

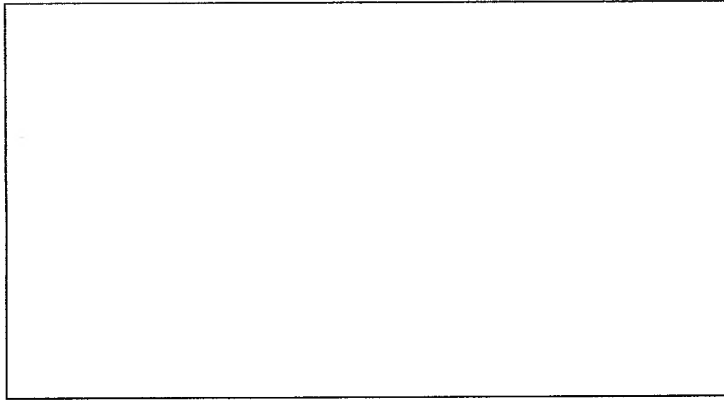


FIG. 75D

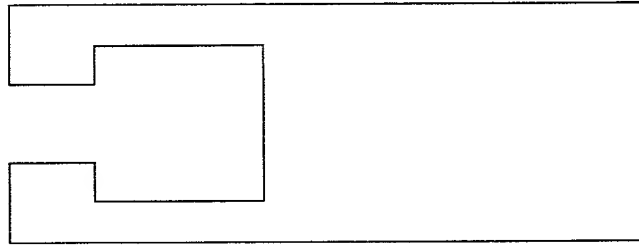


FIG. 75C

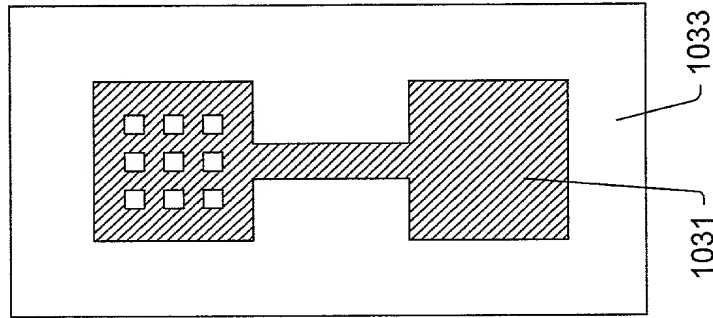


FIG. 75B

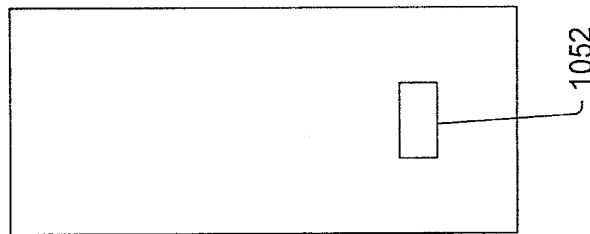


FIG. 75A

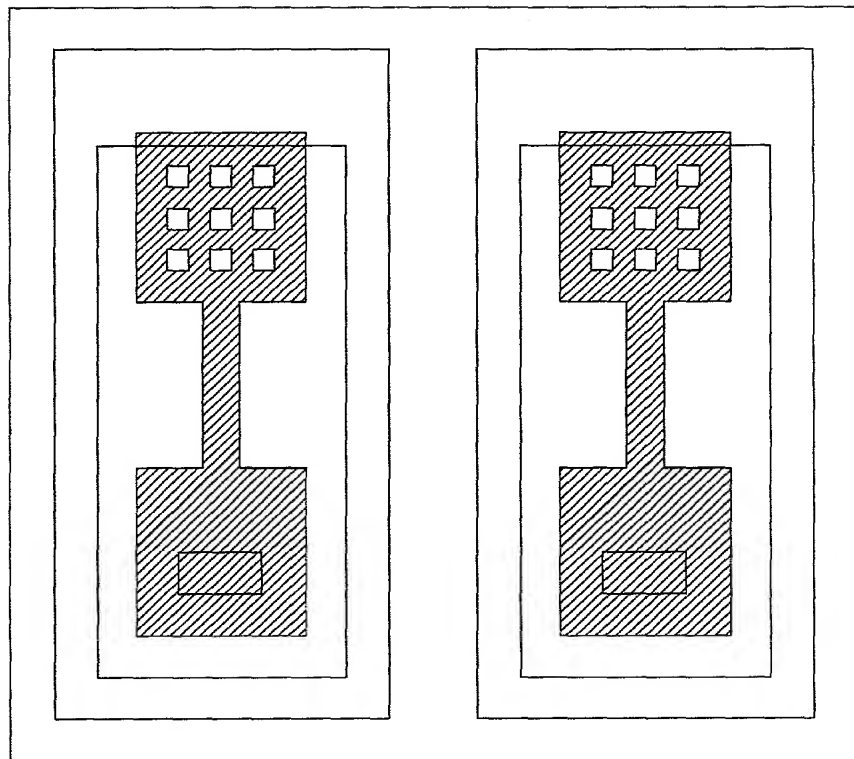


FIG. 76

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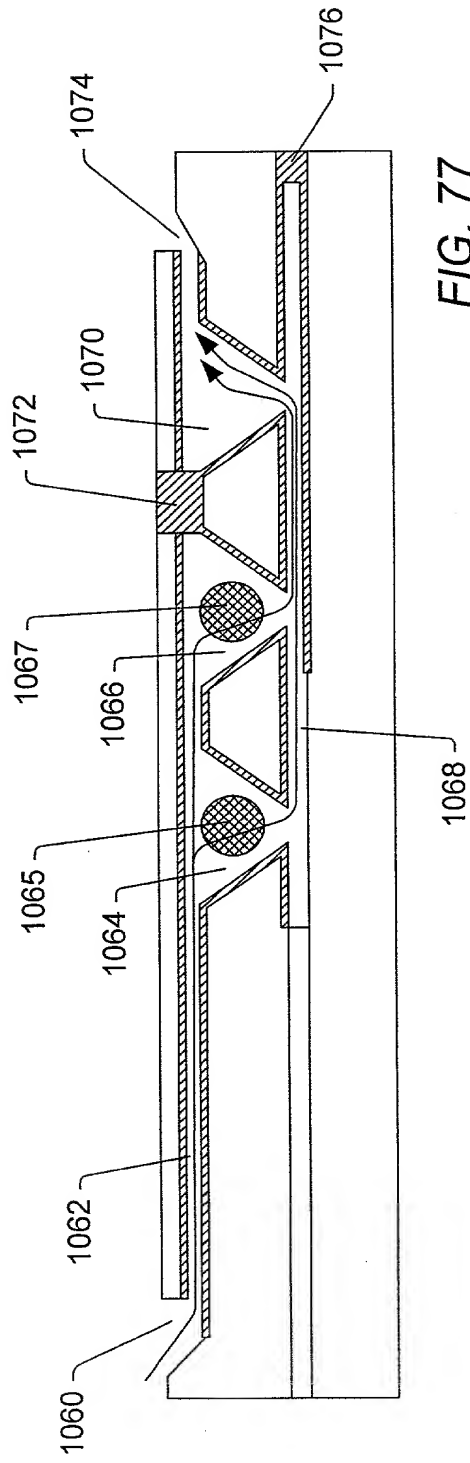


FIG. 77

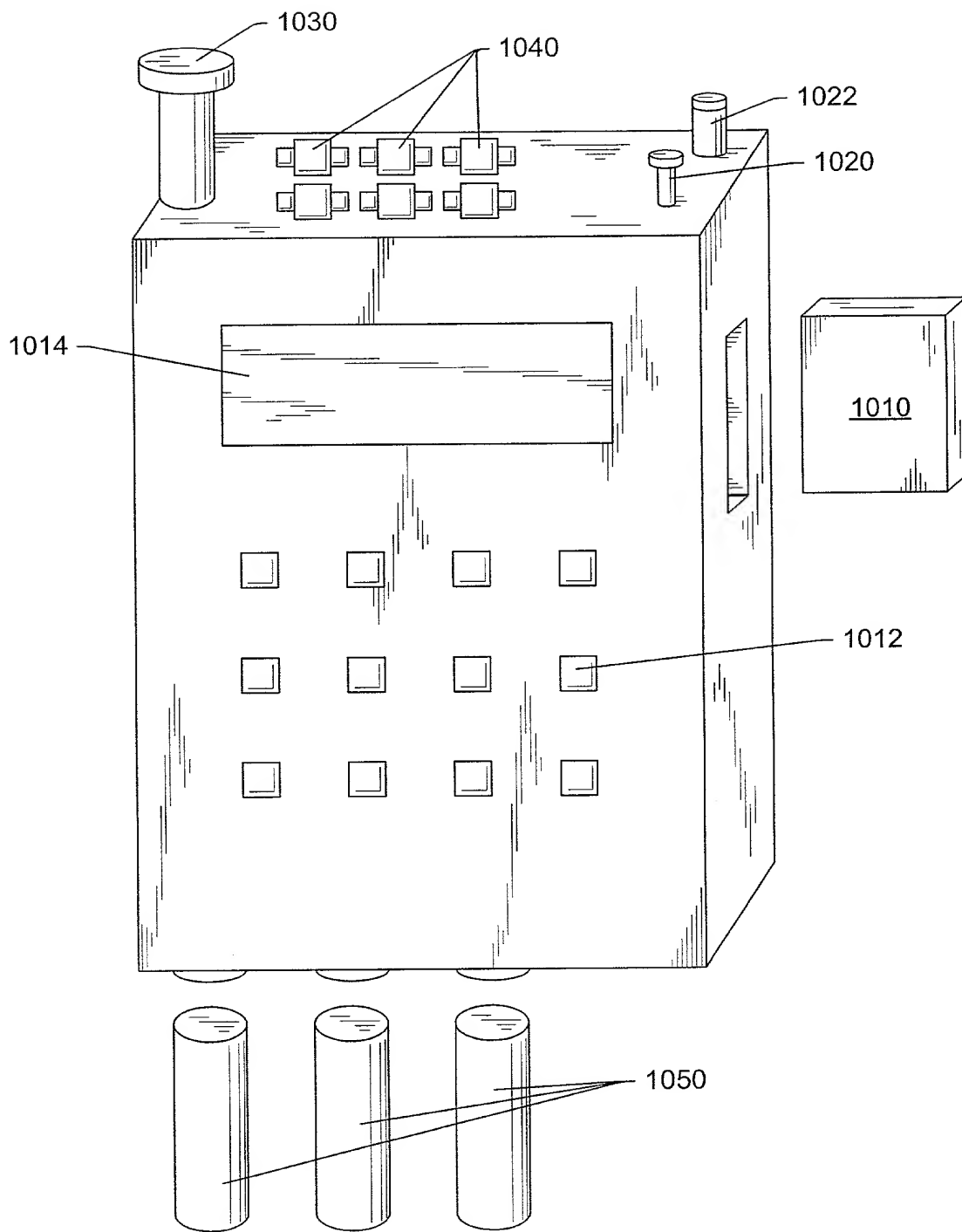


FIG. 78

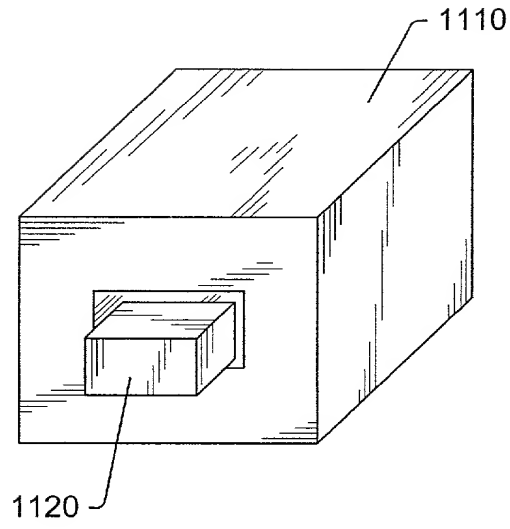


FIG. 79A

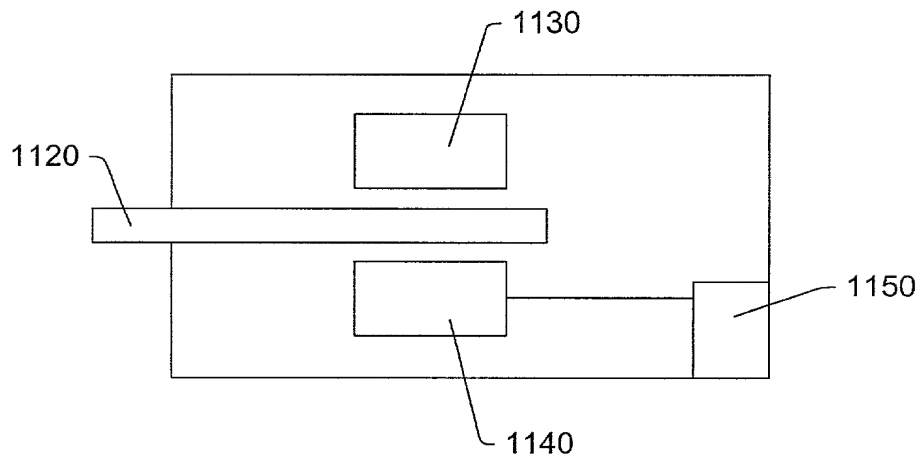
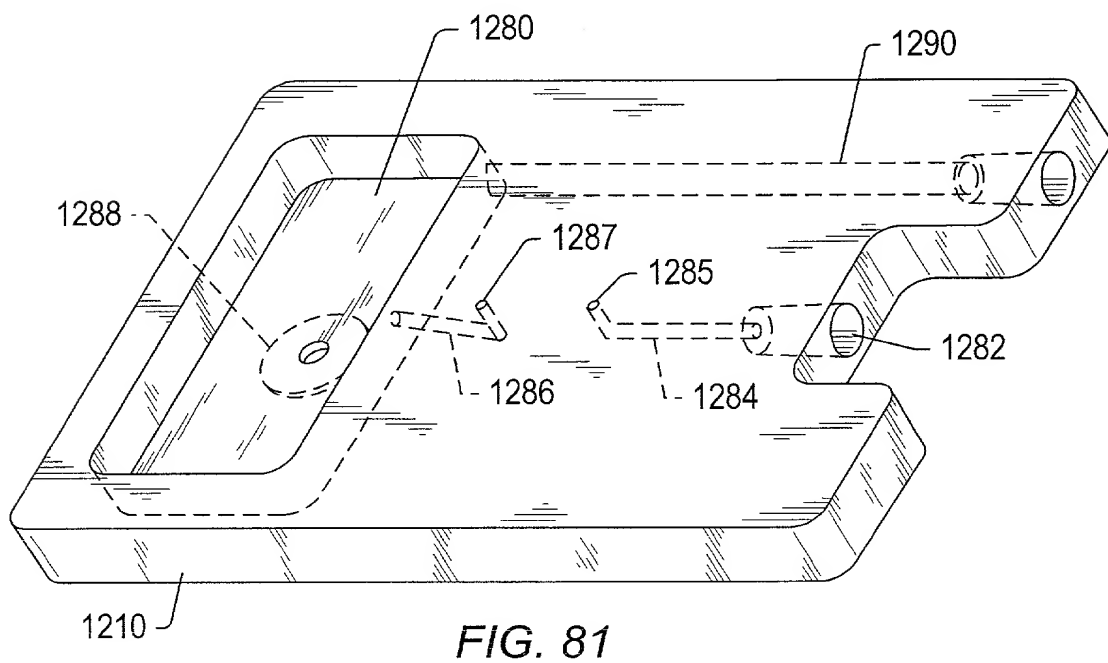
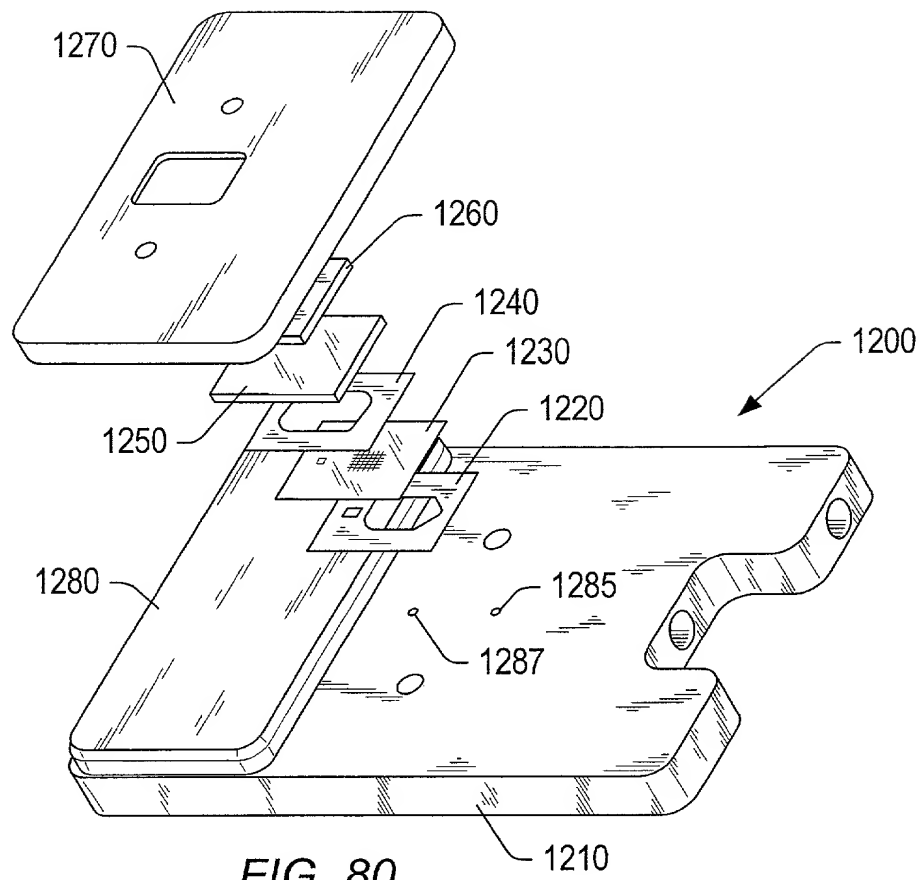


FIG. 79B



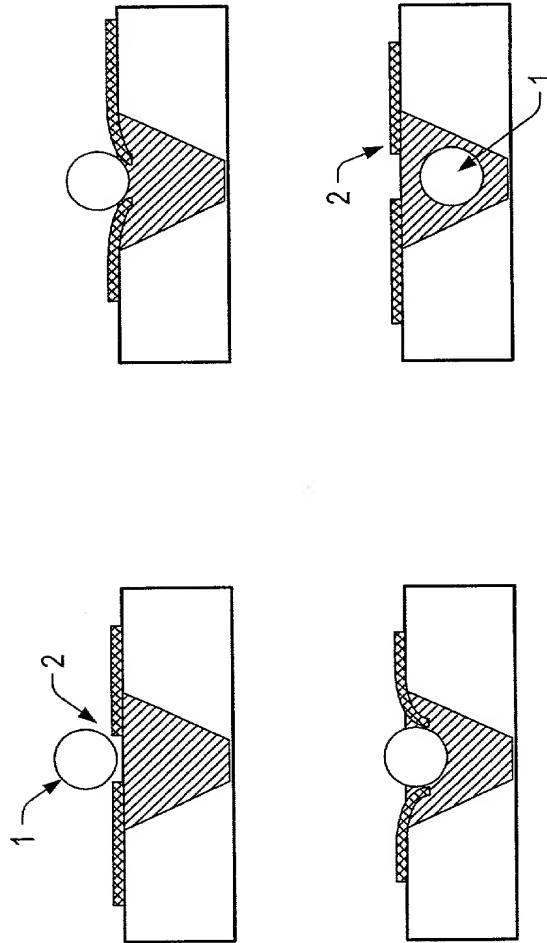


FIG. 82